NOTICE

The information contained is for **DEALER REFERENCE PURPOSES ONLY**.
MANUALS ARE MODEL AND SERIAL NUMBER SPECIFIC.

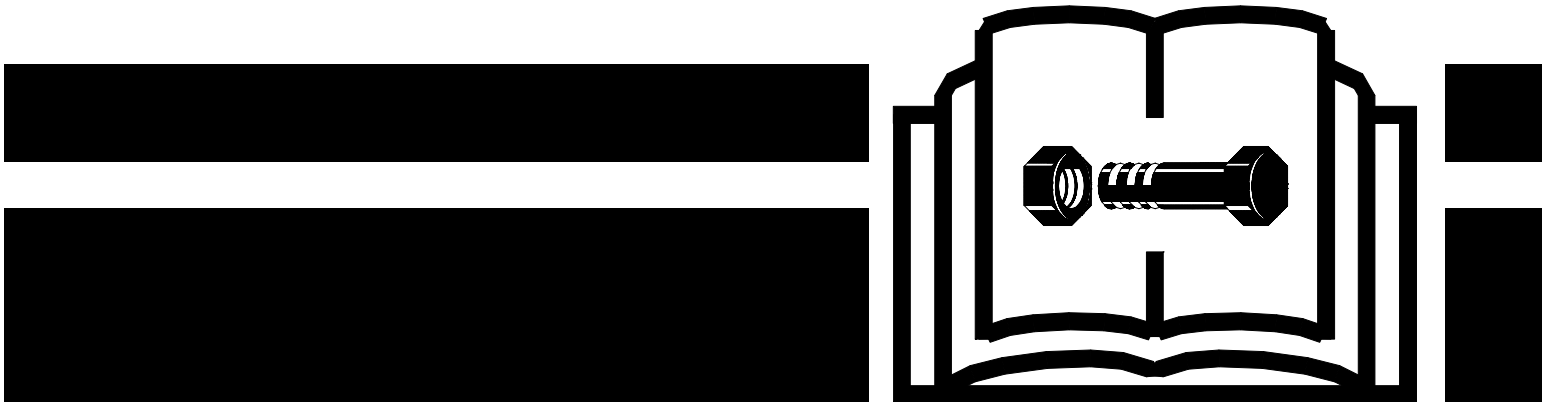
If additional printed manuals are required for your shop/office location, order by part number through the factory's Parts Center.

If a retail customer needs replacement manual(s) for a specific unit, contact the factory's Customer Data Center at: 800-829-0051 or customerdata@vermeermfg.com

This page intentionally left blank.

Vermeer®

D24X40A Navigator®
Horizontal Directional Drill



Parts Manual

D24X40A_P2_20
SERIAL NO. 384 -
ORDER NO. 105400Q20

HOW TO USE THE MANUAL

This manual contains illustrations and parts lists of components and assemblies which make up the machine. Each page consists of the name of the assembly or component, a figure number, reference numbers, part numbers, part names, and the quantities of the parts used.

Assembly or component name helps identify the illustration and parts list for each figure. This name also helps locate the general area of the machine where the assembly or component can be located.

Figure numbers are used to identify each assembly or component and to group these assemblies or components into major categories.

Reference numbers shown in a column refer to the numbered parts in the illustration. This ties the part in the illustration to the part number and description in the parts list.

An asterisk indicates information about the item has changed since the previous release of the parts manual. A note in the Remarks column often explains the change.

Part numbers are used to identify individual parts or part assemblies.

Part descriptions provide the name of the part, plus additional information such as dimensional specifications and what parts are grouped together to form part assemblies, which helps you identify the part(s).

Quantities listed for each figure are only for that assembly or component and not the total used per machine.

This parts manual is not intended to be a complete guide for machine service or repairs. Contact your Vermeer dealer for any of your service or technical requirements.

ORDERING PARTS

Parts for repair or replacement are available through our network of authorized dealers located throughout the world.

Use only authorized Vermeer parts for repair or replacement. Always give the serial number and model number of the machine for which parts are being ordered. When ordering parts for component(s), which are not manufactured by Vermeer Corporation, also give the serial number of that component(s). Order all parts by part number, part name, and quantity needed.

UPDATING AND REORDERING MANUALS

The parts lists, illustrations, and specifications in this manual are based on the latest information available at time of publication. Your machine may have product improvements and options not yet contained in this manual.

Vermeer Corporation reserves the right to make changes at any time without notice or obligation to you.

Your dealer will receive notice of these changes and can assist you with accurate parts identification when ordering.

A copy of this manual is supplied with each machine. Additional copies are available through your dealer. When ordering additional manuals, use the reorder number listed on the front cover and the quantity needed.

No part of this manual may be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval systems, without the express written consent of Vermeer Corporation.

Copyright © 2004-2008 Vermeer Corporation
All rights reserved.
Vermeer Corporation
1210 Vermeer Road East, P.O. Box 200
Pella, Iowa 50219-0200, USA+

Frame - Section 1

Decal (Domestic) . . . . . Fig 1-1r06
Decal (Domestic) . . . . . Fig 1-1r05
Decal (Domestic) (Continued) . . . . . Fig 1-1r05
Decal (Domestic) . . . . . Fig 1-1x01
Decal (Domestic) . . . . . Fig 1-1x02r01
Decal (Domestic) . . . . . Fig 1-1x02
Decal (Domestic) . . . . . Fig 1-1x03r01
Decal (Domestic) . . . . . Fig 1-1x03
Decal (Domestic) . . . . . Fig 1-1x04r01
Decal (Domestic) . . . . . Fig 1-1x04
Decal (Domestic) . . . . . Fig 1-1x05r01
Decal (Domestic) . . . . . Fig 1-1x05
Decal (Domestic) . . . . . Fig 1-1x06r01
Decal (Domestic) . . . . . Fig 1-1x06
Decal (International) . . . . . Fig 1-2r06
Decal (International) . . . . . Fig 1-2r05
Decal (International) (Continued) . . . . . Fig 1-2r05
Decal (International) . . . . . Fig 1-2x01
Decal (International) . . . . . Fig 1-2x02r01
Decal (International) . . . . . Fig 1-2x02
Decal (International) . . . . . Fig 1-2x03r01
Decal (International) . . . . . Fig 1-2x03
Decal (International) . . . . . Fig 1-2x04r01
Decal (International) . . . . . Fig 1-2x04
Decal (International) . . . . . Fig 1-2x05r01
Decal (International) . . . . . Fig 1-2x05
Decal (International) . . . . . Fig 1-2x06r01
Decal (International) . . . . . Fig 1-2x06
Decal Location . . . . . Fig 1-3r04
Decal Location . . . . . Fig 1-3r03
Decal Location . . . . . Fig 1-4r06
Decal Location . . . . . Fig 1-4r05
Main Frame . . . . . Fig 1-5
Rack Frame . . . . . Fig 1-6r05
Roller - Upper . . . . . Fig 1-7r01
Roller - Lower . . . . . Fig 1-8r02
Roller - Thrust Cylinder . . . . . Fig 1-9r01
Outrigger Arm . . . . . Fig 1-10r01
Umbrella . . . . . Fig 1-11

Engine - Section 2

Engine Components . . . . . Fig 2-1r01
Engine Components . . . . . Fig 2-2r01
Engine Components . . . . . Fig 2-2
Pump Drive . . . . . Fig 2-3r01
Pump Drive . . . . . Fig 2-3
Engine Mount . . . . . Fig 2-4r01
Engine Compartment Shields - Left . . . . . Fig 2-5r01
Engine Compartment Shields - Top/Right . . . . . Fig 2-6r05

Engine Compartment Shields - Top/Right . . . . . Fig 2-6r04
Radiator Shield . . . . . Fig 2-7
Radiator . . . . . Fig 2-8r02
Air Cleaner . . . . . Fig 2-9r01
Muffler . . . . . Fig 2-10r01
Fuel Tank . . . . . Fig 2-11r02
Fuel Tank . . . . . Fig 2-11r01
Air Cleaner Components . . . . . Fig 2-12
Ether Starting System . . . . . Fig 2-13r02

Ground Drive - Section 3

Hydraulic Components Location Diagram - Ground Drive . . . . . Fig 3-1
Track Drive Grearbox (S/N 1773 -) . . . . . Fig 3-2r04
Track Drive Grearbox (S/N 101-1772) . . . . . Fig 3-2r03c1
Track Chain, Roller & Tightener . . . . . Fig 3-3r01
Control Valve - 3 Spool . . . . . Fig 3-4
Brake Valve . . . . . Fig 3-5
Track Drive Gearbox Components (Go To Figure 3-12) . . . . . Fig 3-6r06
Track Drive Gearbox Components (S/N 101 - 1772) . . . . . Fig 3-6r05
Track Drive Gearbox Components (S/N 101 - 1772)(Continued) . . . . . Fig 3-6r05
Track Drive Gearbox Components (S/N 101 - 1772) . . . . . Fig 3-6r04
Track Drive Gearbox Components (S/N 101 - 1772)(Continued) . . . . . Fig 3-6r04
Hydraulic Motor Components (Go To Figure 3-14) . . . . . Fig 3-7r02
Hydraulic Motor Components (S/N 101 - 1772) . . . . . Fig 3-7r01
Control Valve Components - 3 Spool . . . . . Fig 3-8r01
Load Check Plug Components . . . . . Fig 3-9
Standard Spool Positioner Components . . . . . Fig 3-10
WH Main Relief Components . . . . . Fig 3-11
Planetary Gearbox Components (S/N 1773 -) . . . . . Fig 3-12
Park Brake Components (S/N 1773 -) . . . . . Fig 3-13
Hydraulic Motor Components (S/N 1773 -) . . . . . Fig 3-14

Rotation - Section 4

Hyd Components Location Diagram - Rotation Drive . . . . . Fig 4-1r02
Hyd Components Location Diagram - Rotation Drive . . . . . Fig 4-1r01
Hydrostatic Pump . . . . . Fig 4-2r01
Hydrostatic Pump . . . . . Fig 4-2
Rotation Gearbox . . . . . Fig 4-3r02
Rotation Drive Motor Hyd . . . . . Fig 4-4r02
Loop Flush Valve . . . . . Fig 4-5r05
Loop Flush Valve . . . . . Fig 4-5r04
Pressure Limiter Valve . . . . . Fig 4-6r02
Hose Junction Block . . . . . Fig 4-7r01
Hose Junction Block . . . . . Fig 4-7
Hose Carrier . . . . . Fig 4-8r01
Drive Chuck . . . . . Fig 4-9
Rod Position Indicator . . . . . Fig 4-10r02
Rotation Gearbox Components (S/N 2053-) . . . . . Fig 4-11r07
Rotation Gearbox Components . . . . . Fig 4-11r06
Rotation Gearbox Components . . . . . Fig 4-11r05
Pressure Limiter Components . . . . . Fig 4-12r01

Loop Flush Valve Components . . . . . Fig 4-13r04
Hose Carrier Components . . . . . Fig 4-14
Hyd Motor Components (S/N 2053-) . . . . . Fig 4-15r01
Hyd Motor Components . . . . . Fig 4-15
Hyd Motor Components (S/N 2053-) . . . . . Fig 4-16r01
Hyd Motor Components . . . . . Fig 4-16
Hyd Pump Components . . . . . Fig 4-17r01
Hyd Pump Components . . . . . Fig 4-17

Hyd Implement Drive - Section 5

Hyd Components Location Diagram - Implement Drive . . . . . Fig 5-1r01
Miscellaneous Supples . . . . . Fig 5-2
Hyd Oil Tank . . . . . Fig 5-3r02
Hyd Oil Tank . . . . . Fig 5-3r01
Hyd Oil Filter . . . . . Fig 5-4r02
Implement Pump . . . . . Fig 5-5r04
Control Valve - 3 Spool. . . . . Fig 5-6
Control Valve - 4 Spool. . . . . Fig 5-7
Solenoid Valve (Vise Clamp & Rod Loader) . . . . . Fig 5-8r03
Solenoid Valve (Vise Clamp & Rod Loader) . . . . . Fig 5-8r02
Dump Valve . . . . . Fig 5-9r04
Dump Valve . . . . . Fig 5-9r03
Regen Valve . . . . . Fig 5-10r01
Thrust/Pullback Cylinder . . . . . Fig 5-11r01
Rack Lift Cylinder . . . . . Fig 5-12
Outrigger Cylinder . . . . . Fig 5-13r02
Bulkhead . . . . . Fig 5-14r01
Control Valve Components - 4 Spool (S/N 11549, 1611 -) . . . . . Fig 5-15r03
Dump Valve Components . . . . . Fig 5-16r01
Lock Valve Components. . . . . Fig 5-17
Hyd Cylinder Components - 4” x 7” . . . . . Fig 5-18r01
Hyd Cylinder Components - 3 1/2” x 12”. . . . . Fig 5-19
Hyd Cylinder Components - 4 1/2” x 65”. . . . . Fig 5-20
Soleniod Cylinder Components - Vise Clamp . . . . . Fig 5-21r01
Soleniod Cylinder Components - Vise Clamp . . . . . Fig 5-21
Soleniod Cylinder Components - Rod Loader . . . . . Fig 5-22
Valve Components - Selectable Regen . . . . . Fig 5-23r01
Stakedown Valve Components . . . . . Fig 5-24r01

Hyd Water System - Section 6

Hyd Components Location Diagram - Water System . . . . . Fig 6-1r01
Gear Pump . . . . . Fig 6-2
Hyd Motor - Water System . . . . . Fig 6-3r02
Hyd Motor - Water System . . . . . Fig 6-3r01
Water Control Valve. . . . . Fig 6-4
Proportional Valve . . . . . Fig 6-5r02
Proportional Valve . . . . . Fig 6-5r01
Oil Cooler . . . . . Fig 6-6r01
Oil Cooler . . . . . Fig 6-6
Water Pump On/Off Cylinder . . . . . Fig 6-7r02
Water Pump On/Off Cylinder . . . . . Fig 6-7r01

Hyd Cylinder Components - 1” x 3 1/2” (S/N 1776 -) . . . . . Fig 6-8r02
Hyd Cylinder Components - 1” x 3 1/2” (S/N 101 - 1775) . . . . . Fig 6-8r01
Hyd Cylinder Components - 1” x 3 1/2” . . . . . Fig 6-8
Hyd Motor Components W/Speed Pickup (S/N 1549, 1611 -) . . . . . Fig 6-9r02
Hyd Motor Components (S/N 101-1548, 1550-1610) . . . . . Fig 6-9r01
Inline Relief Valve Components . . . . . Fig 6-10
Proportional Valve Components . . . . . Fig 6-11
Solenoid Valve Components . . . . . Fig 6-12

Water System - Section 7

Wand . . . . . Fig 7-1r02
Wand . . . . . Fig 7-1r01
Water Pump . . . . . Fig 7-2r03
Water Pump . . . . . Fig 7-2r02
Anti-Freeze System . . . . . Fig 7-3r03
Water Pump Components . . . . . Fig 7-4r04
Water Pump Components (Continued) . . . . . Fig 7-4r04
Water Pump Components (Continued) . . . . . Fig 7-4r04c
Water Pump Components . . . . . Fig 7-4r03
Water Pump Components (Continued) . . . . . Fig 7-4r03
Water Pump Components (Continued) . . . . . Fig 7-4r03c
Ball Valve Components - 1” High Pressure . . . . . Fig 7-5
Drill Fluid . . . . . Fig 7-6
Water Pressure Manifold Components . . . . . Fig 7-7r02
Water Pressure Manifold Components . . . . . Fig 7-7r01

Control/Electrical - Section 8

Control Console . . . . . Fig 8-1r04
Control Panel (S/N 1549, 1611 -) . . . . . Fig 8-2r10
Control Panel (S/N 1549, 1611 -) (Continued) . . . . . Fig 8-2r10
Control Panel (S/N 1549, 1611 -) . . . . . Fig 8-2r09
Control Panel (S/N 1549, 1611 -) (Continued) . . . . . Fig 8-2r09
Control Panel (S/N 1549, 1611 -) . . . . . Fig 8-2r08
Control Panel (S/N 1549, 1611 -) (Continued) . . . . . Fig 8-2r08
Control Panel (S/N 101-1548, 1550-1610) . . . . . Fig 8-2r06
Control Panel (S/N 101-1548, 1550-1610) (Continued) . . . . . Fig 8-2r06
Vandal Shield . . . . . Fig 8-3
Seat Pivot Latch . . . . . Fig 8-4
Engine Electrical Panel/Harness . . . . . Fig 8-5r04
Engine Electrical Panel/Harness . . . . . Fig 8-5r03
Wire Harness . . . . . Fig 8-6r03
Wire Harness . . . . . Fig 8-6r02
Throttle Solenoid (S/N 1549, 1598 -) . . . . . Fig 8-7r08
Throttle Solenoid (S/N 1549, 1598 -) . . . . . Fig 8-7r07
Throttle Solenoid (S/N 101-1548, 1550-1597) . . . . . Fig 8-7r05c1
Battery . . . . . Fig 8-8r01
Control Lever (Rotation) . . . . . Fig 8-9r04
Control Lever (Rotation) . . . . . Fig 8-9r03
Control Lever (Rotation) . . . . . Fig 8-9r02
Control Lever (Thrust/Pullback) . . . . . Fig 8-10r02
Pressure Gauge . . . . . Fig 8-11r02

Seat . . . . . Fig 8-12r02
Literature Box (S/N 642 -) . . . . . Fig 8-13r03
Literature Box (S/N 642 -) . . . . . Fig 8-13r02
Work Light . . . . . Fig 8-14r02
Control Lever (Thrust/Pullback) . . . . . Fig 8-15
Control Lever (Rotation) . . . . . Fig 8-16r01
Control Lever (Rotation) . . . . . Fig 8-16

Ground/Safety - Section 9

Voltage Stake . . . . . Fig 9-1r01
Ground Stake . . . . . Fig 9-2r01
Safety Features - Gloves, Boots, Cones . . . . . Fig 9-3r01

Rod Loader - Section 10

Hyd Components Location Diagram - Rod Loader . . . . . Fig 10-1r01
Pivot Arm . . . . . Fig 10-2r05
Pivot Arm . . . . . Fig 10-2r04
Rod Lift/Selector . . . . . Fig 10-3r04
Rod Lift/Selector . . . . . Fig 10-3r03
Rod Box . . . . . Fig 10-4r03
Rod Box . . . . . Fig 10-4r02
Rod Loader Valve . . . . . Fig 10-5r01
Rod Selector Cylinder . . . . . Fig 10-6r03
Rod Selector Cylinder . . . . . Fig 10-6r02
Rod Lifter Cylinder. . . . . Fig 10-7r01
Rod Lifter Cylinder. . . . . Fig 10-7
Rotation Motor . . . . . Fig 10-8r02
Hyd Cylinder Components - 2” x 5” (S/N 1776 -). . . . . Fig 10-9r03
Hyd Cylinder Components - 2” x 5” (S/N 101-1775) . . . . . Fig 10-9r02
Hyd Cylinder Components - 2” x 5” . . . . . Fig 10-9r01
Hyd Cylinder Components - 1 1/2” x 5” (S/N 1776 -) . . . . . Fig 10-10r03
Hyd Cylinder Components - 1 1/2” x 5” (S/N 1776 -) . . . . . Fig 10-10r02
Hyd Cylinder Components - 1 1/2” x 5” (S/N 101-1775). . . . . Fig 10-10r01
Hyd Cylinder Components - 1 1/2” x 5”. . . . . Fig 10-10
Hyd Motor Components . . . . . Fig 10-11r02

Vise Clamp - Section 11

Hyd Components Location Diagram - Vise Clamp. . . . . Fig 11-1
Clamp . . . . . Fig 11-2r07
Clamp . . . . . Fig 11-2r06
Clamp . . . . . Fig 11-2r05
Zap Alert Coil . . . . . Fig 11-3r03
Solenoid Valve - 3 Bank (Vise Clamp). . . . . Fig 11-4
Rotation Cylinder . . . . . Fig 11-5
Jaw Cylinder. . . . . Fig 11-6r01
Jaw Cylinder. . . . . Fig 11-6
Hyd Cylinder Components - 2 1/2” x 6 5/8” (S/N 1776 -) . . . . . Fig 11-7r02
Hyd Cylinder Components - 2 1/2” x 6 5/8” (S/N 101-1775). . . . . Fig 11-7r01
Hyd Cylinder Components - 2 1/2” x 6 5/8”. . . . . Fig 11-7

Hyd Cylinder Components - 2 1/2" x 3" . . . . . Fig 11-8

Location SPOT-D-TEK - Section 12

Location Package, SPOT-D-TEK II.2 Utility . . . . . Fig 12-1
Location Package, SPOT-D-TEK II.2, III & IIIA . . . . . Fig 12-2
Location Package, SPOT-D-TEK Mole Mapping System . . . . . Fig 12-3
SPOT-D-TEK II.2 Directional Probe (Repairable) Components . . . . . Fig 12-4
SPOT-D-TEK II.2 Deep Sonde (Repairable) Components . . . . . Fig 12-5

Location DIGITRAK - Section 13

Location Package, MARK III - DIGITRAK - Dom & Int . . . . . Fig 13-1
Location Package, MARK III - DIGITRAK (W/Remote Display) Dom . . . . . Fig 13-2
Location Package, MARK III - DIGITRAK (W/Remote Display) Int . . . . . Fig 13-3
Data Logger, MARK III - DIGITRAK . . . . . Fig 13-4
Cable Sonde Accessory . . . . . Fig 13-5r02
Slip Ring Components . . . . . Fig 13-6

Stake Down - Section 14

Power Stake Down . . . . . Fig 14-1r02
Cylinder Assist - Power Stake Down . . . . . Fig 14-2r01
Stake . . . . . Fig 14-3r01
Hyd Motor Components . . . . . Fig 14-4
Hyd Cylinder Components - 1 1/2" x 8" . . . . . Fig 14-5
Hyd Components Location Diagram - Power Stake Down . . . . . Fig 14-6
Bulkhead . . . . . Fig 14-7

Stationary Stake Down - Section 15

Hyd Components Location Diagram - Power Stake Down . . . . . Fig 15-1r02
Stationary Stake Down . . . . . Fig 15-2r04
Stationary Stake Down . . . . . Fig 15-2r03
Lock Valve . . . . . Fig 15-3r05
Lock Valve . . . . . Fig 15-3r04
Shutoff Valve . . . . . Fig 15-4r02
Hyd Motor Components . . . . . Fig 15-5
Hyd Cylinder Components - 1 1/2" x 24" (Replace By Figure 15-8) . . . . . Fig 15-6r02
Hyd Cylinder Components - 1 1/2" x 24" W/Tee (S/N 101-1489) . . . . . Fig 15-6r01
Shut Off Valve Components . . . . . Fig 15-7
Hyd Cylinder Components - 1 1/2" x 24" (S/N 1776 -) . . . . . Fig 15-8r02
Hyd Cylinder Components - 1 1/2" x 24" (S/N 1490-1775) . . . . . Fig 15-8r01
Hyd Cylinder Components - 1 1/2" x 24" (S/N 1490-) . . . . . Fig 15-8

Power Vise - Section 16

Tubing Tong . . . . . Fig 16-1
Tubing Tong Components . . . . . Fig 16-2
Hyd Cylinder Components - 2” x 15”. . . . . Fig 16-3

Rockfire - Section 17

Remote Pressure Limiter Valve . . . . . Fig 17-1r04
Remote Pressure Limiter Valve . . . . . Fig 17-1r03
Pressure Limiter Valve . . . . . Fig 17-2r01
Water Lines (S/N 1967 -). . . . . Fig 17-3r06
Water Lines (S/N 101-1966) . . . . . Fig 17-3r05
Water Lines . . . . . Fig 17-3r04
Electrical . . . . . Fig 17-4r01
Pressure Limiter Valve Components . . . . . Fig 17-5r01
Pressure Limiter Valve Components. . . . . Fig 17-6

Auto Greaser - Section 18

Auto Greaser. . . . . Fig 18-1
Auto Greaser Components . . . . . Fig 18-2
Auto Greaser Cylinder Components - 1” x 2 3/8” . . . . . Fig 18-3
Auto Greaser Valve Components. . . . . Fig 18-4

Remote Lockout - Section 19

Hyd Components Location Diagram - Remote Lockout . . . . . Fig 19-1
Remote Lockout . . . . . Fig 19-2
Remote Lockout Hyd . . . . . Fig 19-3

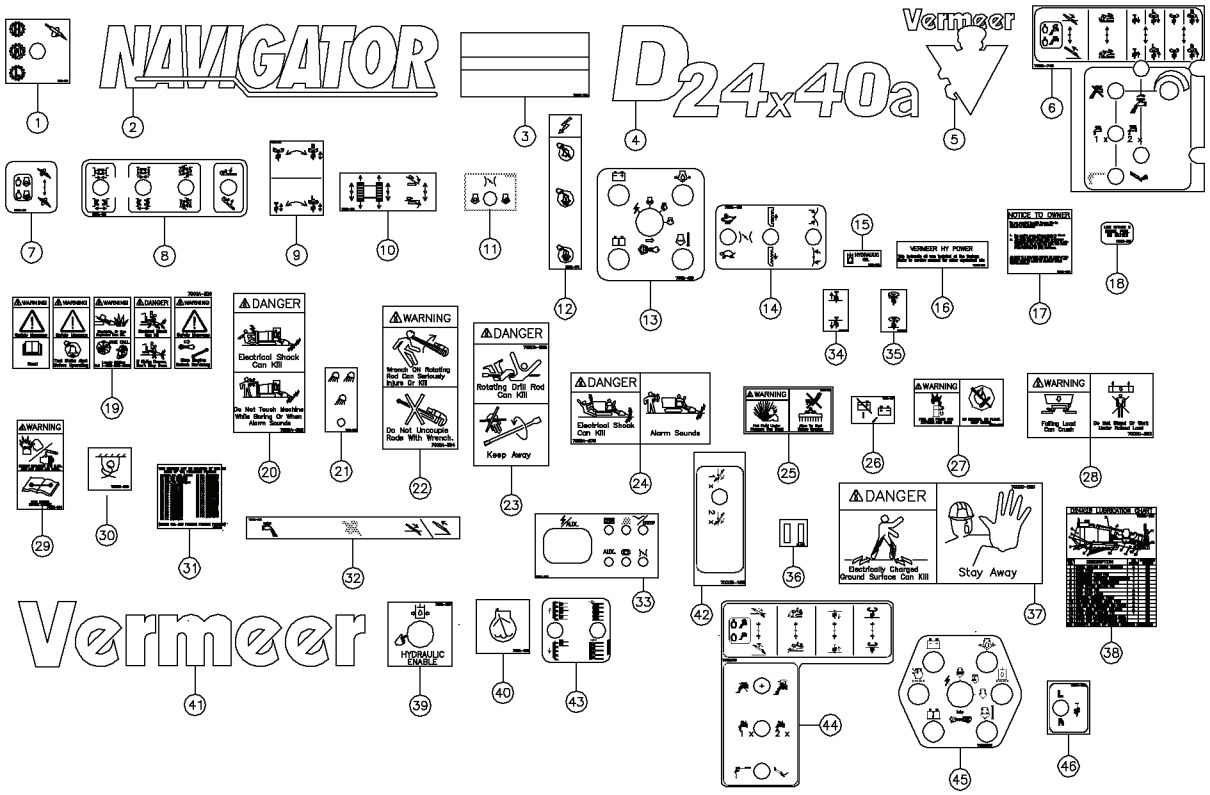
Decal Assy (Domestic) Fig 1-1r06

FIGURE DELETED DUE TO UPDATE

Decal Assy (Domestic) Fig 1-1r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Deleted From Manual
			Replaced with Figures 1-1x01 Thru 1-1x06		

Decal Assy (Domestic) Fig 1-1r05

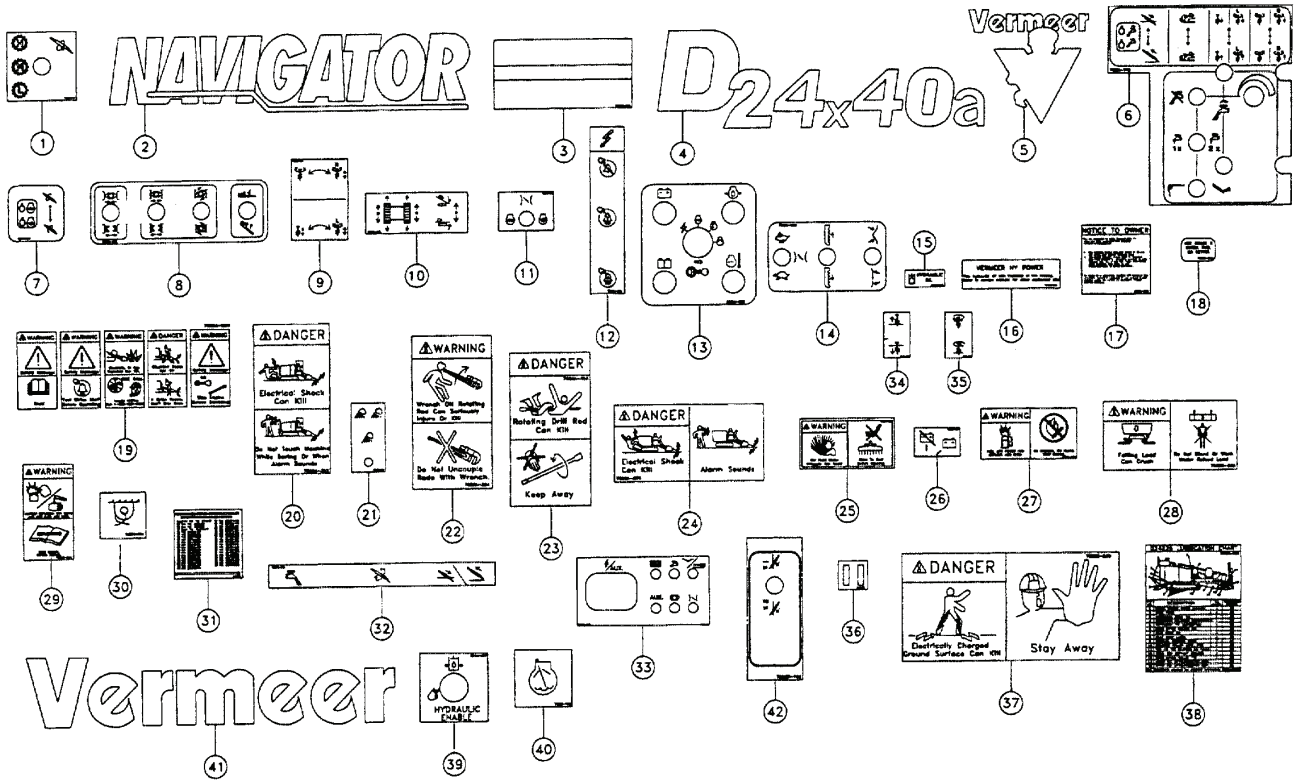


Decal Assy (Domestic) Fig 1-1r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List.
1		700IA679	DECAL-DRILL 3 POSITION	1	
2		70000614	DECAL-MODEL NAVIGATOR (BIG)	1	
2		7000A010	DECAL-NAVIGATOR 2 7/16 X 13	1	
3		70000775	DECAL 3” VERMEER STRIPE	A/R	P/N Qty Of 1 = 1 Foot, 9 Feet 6 Inches Required
4		7000A778	DECAL-MODEL (D24 X 40A)	2	
5		70000785	DECAL 8” VERMEER LOGO	2	
5		70000784	DECAL-6” VERMEER LOGO	1	
6		700IB184	DECAL-CONT. PANEL	1	S/N 101-1548, 1610
7		700IB178	DECAL-ROD ROTATION (UG)	1	
8		700IA426	DECAL-ROD VISES (UND)	1	
9		700IA696	DECAL-HYD. STAKE/REMOTE	1	
10		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
11		700IA639	DECAL	1	
12		700IA474	DECAL-STRIKE ALERT (UG)	1	S/N 101-
13		700IA409	DECAL-IGN. (UND)	1	S/N 101-1548, 1610
14		700IA408	DECAL-LOADER (UND)	1	Early Models
15		2326756	DECAL-HYDRAULIC OIL	1	
16		70000394	DECAL-VERMEER HY POWER	1	
17		2326940	DECAL-NOTICE TO OWNERS	1	
18		70000098	DECAL-DIESEL (AT/UND)	1	
19		7000A528	DECAL-WARNING	1	
20		7000A627	DECAL-DANGER	4	
21		700IA881	DECAL-WORK LIGHT	1	
22		7000A394	DECAL-WARNING	1	
23		7000A393	DECAL-DANGER	1	
24		7000A576	DECAL-DANGER	1	
25		2326315	DECAL-WARNING	1	
26		700IA477	DECAL-BATTERY SWITCH (UG)	1	
27		2326324	DECAL-WARNING/REFUEL	1	
28		70000563	DECAL-WARNING (UND)	2	
29		70000044	DECAL-WARNING (AT/UND)	1	
30		7000I834	DECAL-TIE DOWN POINT	5	
			Figure Continued On Following Page		

Decal Assy (Domestic) (Continued) Fig 1-1r05

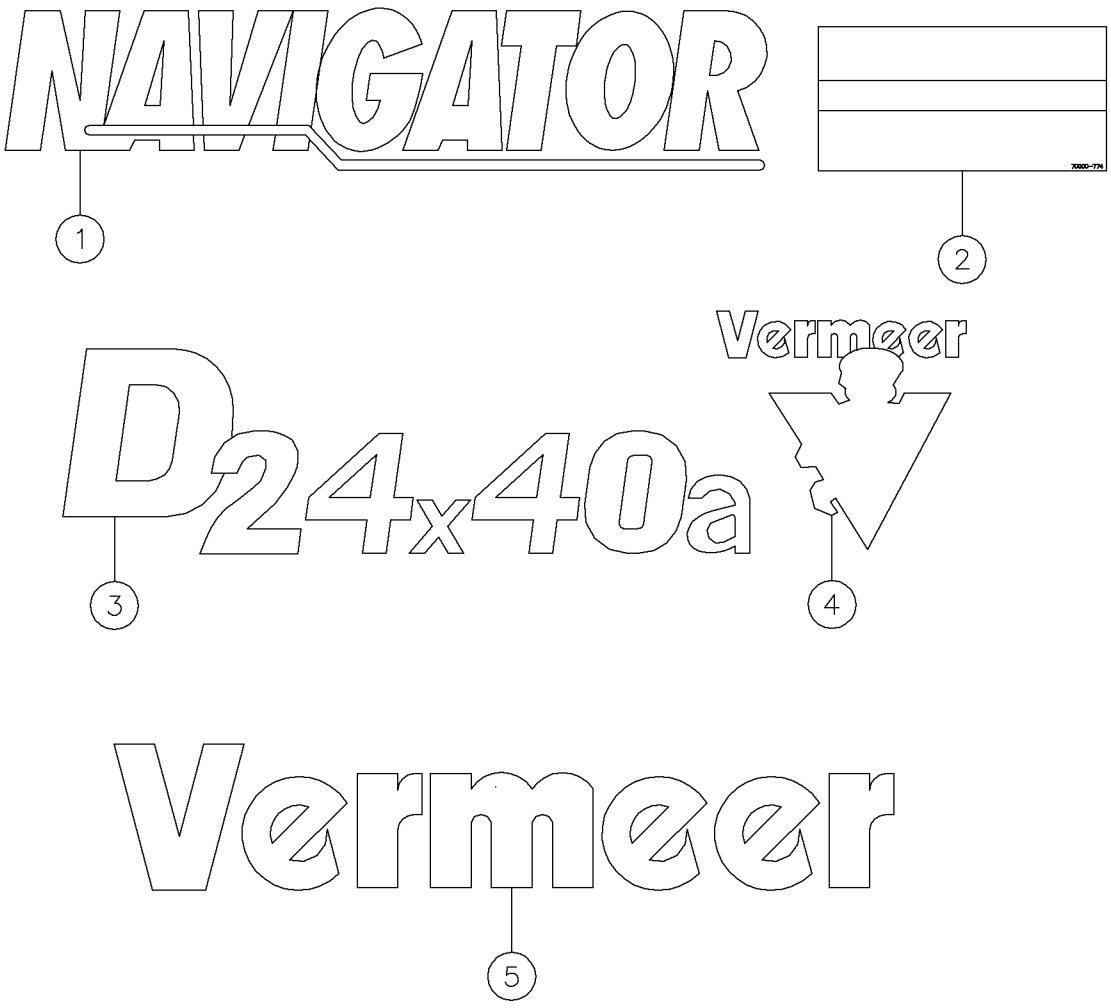
Revised November1999 due to update in decal assy. Changed part marked with *.



Decal Assy (Domestic) (Continued) Fig 1-1r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
31		7000B119	DECAL-PATENT	1	
32		700IA488	DECAL-INSTRUMENTS (UG)	1	
33		700IA771	DECAL-BREAKER LIGHTS	1	
34		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	
35		700IA306	DECAL-STAKE DRIVER ROTAT. (UND)	1	
36		2326142	DECAL-INDICATOR	1	
37		70000530	DECAL-DANGER	4	
38		7000A900	DECAL-D24 X 40A LUBE CHART	1	
39		700IA967	DECAL-HYDRAULIC PRESET	1	
40		700IA193	DECAL-ETHER STARTING (UND)	1	
41		2326619	DECAL-VERMEER 3 X 15	1	
41		7000B059	DECAL-MODEL VERMEER 6”		
42		7000B166	DECAL-THRUST	1	
43	*	70018389	DECAL-LOADER (UND)	1	
44	*	700IB379	DECAL-CONTROL PANEL	1	S/N 1549, 1611 -
45	*	700IB381	DECAL-IGNITION (UND)	1	S/N 1549, 1611 -
46	*	700IA966	DECAL-STAKE LEFT/RIGHT	1	
		901228069	DECAL ASSY-D24 X 40A NAV DOMESTIC		Includes All Items In Figure

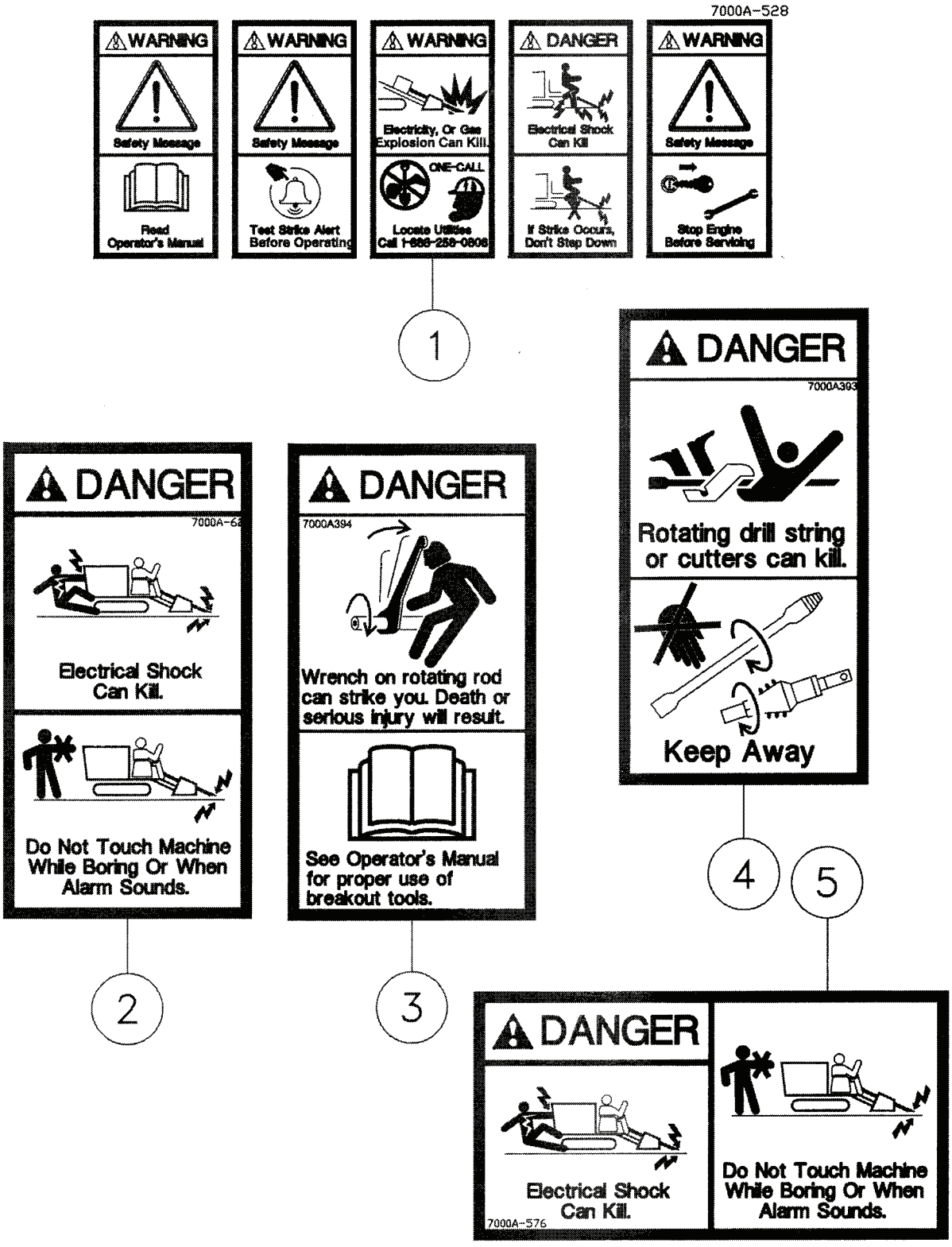
Decal Assy (Domestic) Fig 1-1x01



Decal Assy (Domestic) Fig 1-1x01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		70000614	DECAL-MODEL NAVIGATOR (BIG)	1	
1		7000A010	DECAL-NAVIGATOR 2 7/16 X 13	1	
2		70000775	DECAL 3” VERMEER STRIPE	A/R	P/N Qty Of 1 = 1 Foot, 9 Feet 6 Inches Required
3		7000A778	DECAL-MODEL (D24X40A)	2	
4		70000785	DECAL 8”VERMEER LOGO	2	
4		70000784	DECAL 6”VERMEER LOGO	1	
5		2326619	DECAL- VERMEER 3 X 15	1	
5		7000B059	DECAL - VERMEER 6”	1	

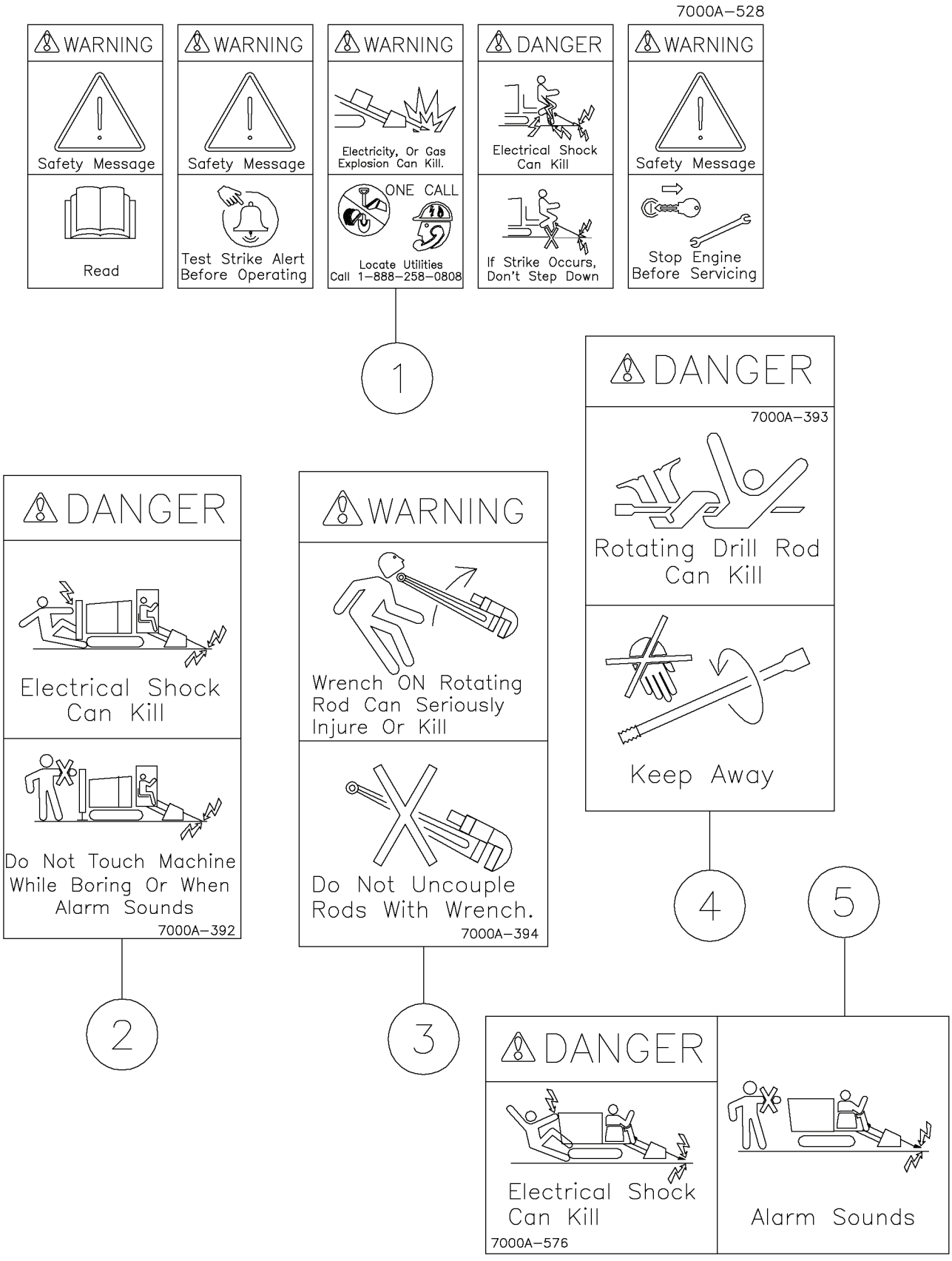
Decal Assy (Domestic) Fig 1-1x02r01



Decal Assy (Domestic) Fig 1-1x02r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		7000A528	DECAL-WARNING	1	
2		7000A627	DECAL-DANGER	4	
3		7000A394	DECAL-WARNING	1	
4		7000A393	DECAL-DANGER	1	
5		7000A576	DECAL-DANGER	1	

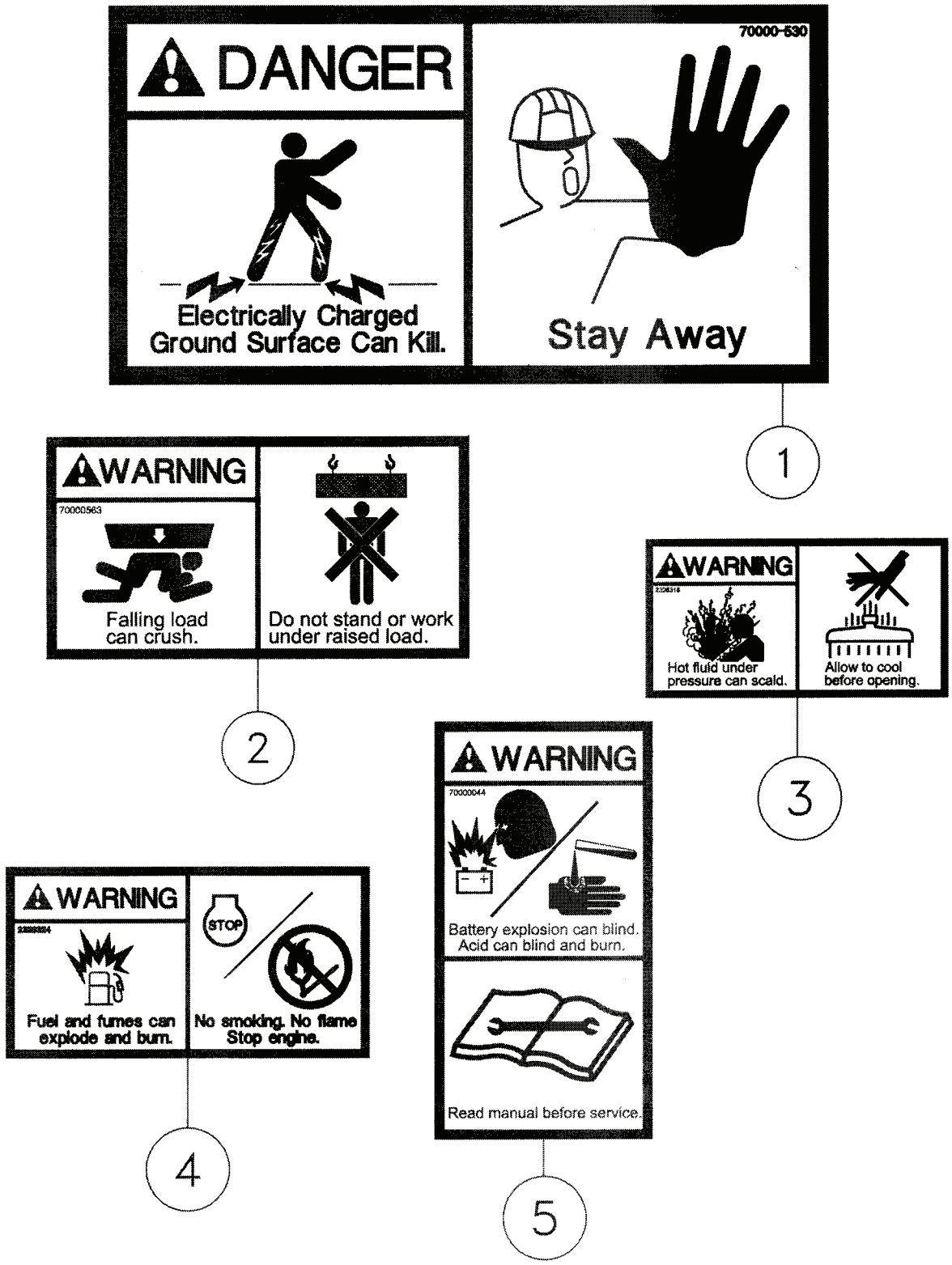
Decal Assy (Domestic) Fig 1-1x02



Decal Assy (Domestic) Fig 1-1x02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		7000A528	DECAL-WARNING	1	
2		7000A627	DECAL-DANGER	4	
3		7000A394	DECAL-WARNING	1	
4		7000A393	DECAL-DANGER	1	
5		7000A576	DECAL-DANGER	1	

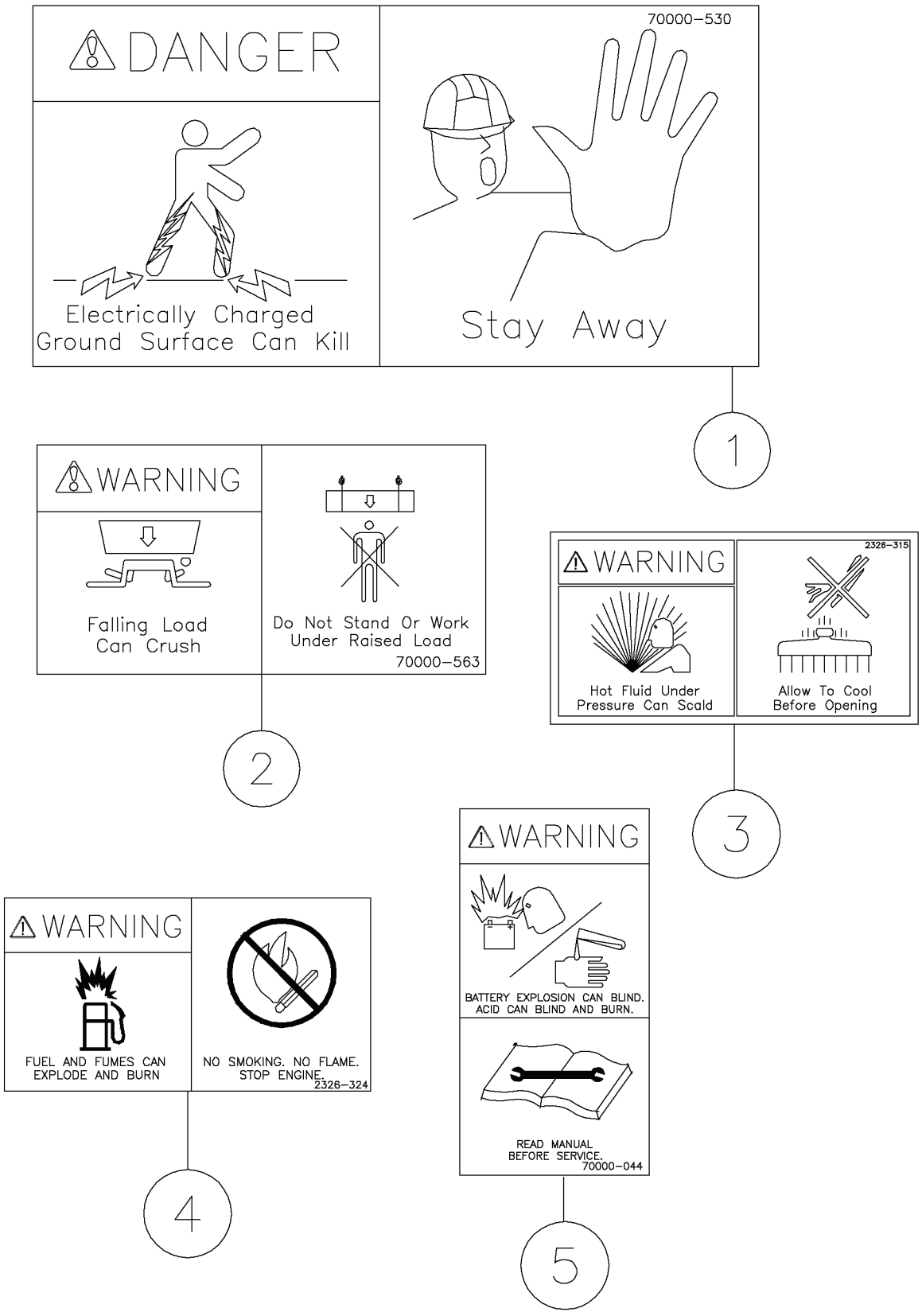
Decal Assy (Domestic) Fig 1-1x03r01



Decal Assy (Domestic) Fig 1-1x03r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		70000530	DECAL-DANGER	4	
2		70000563	DECAL-WARNING (UND)	2	
3		2326315	DECAL-WARNING	1	
4		2326324	DECAL-WARNING/REFUEL	1	
5		70000044	DECAL-WARNING (AT/UND)	1	

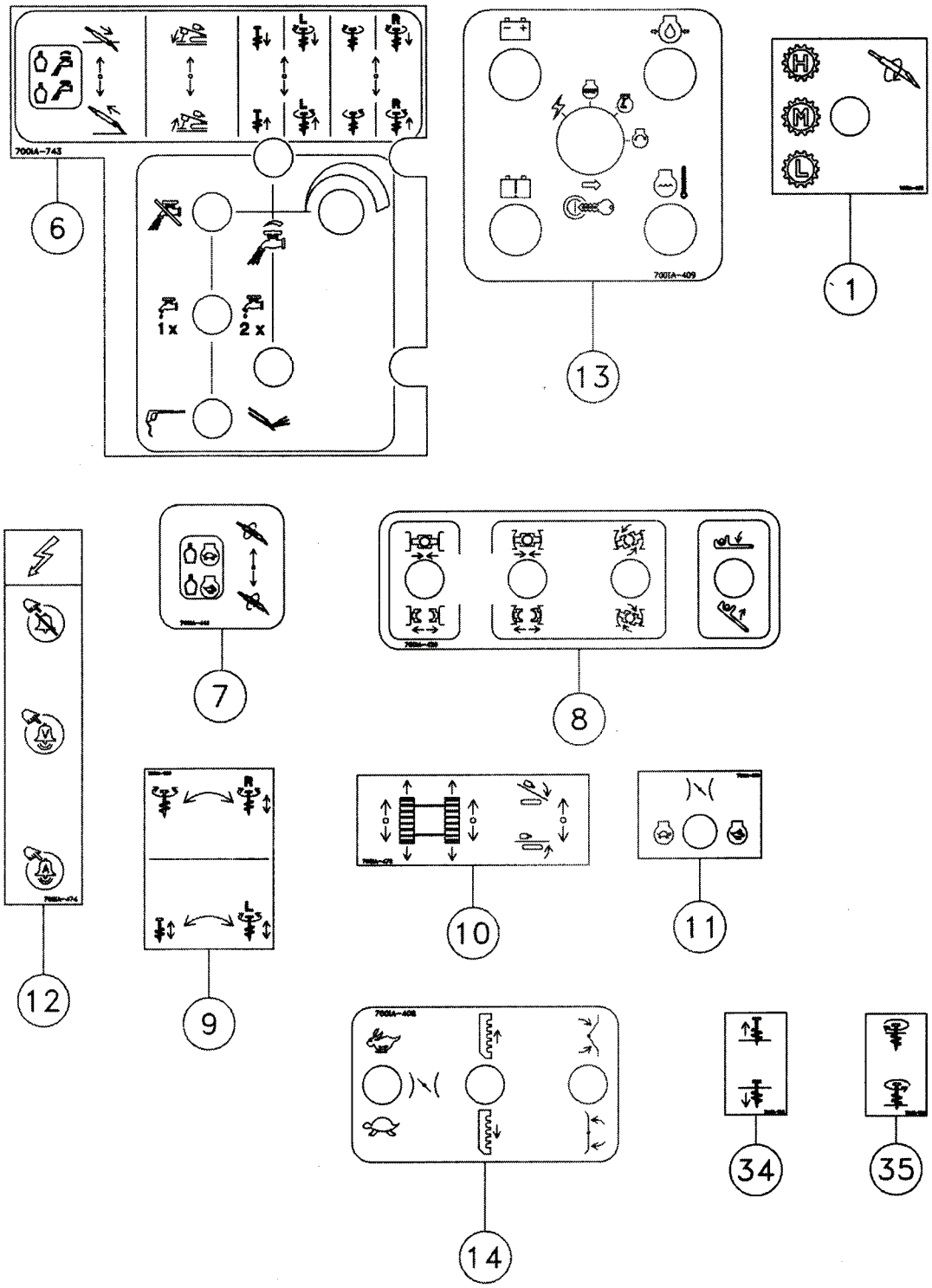
Decal Assy (Domestic) Fig 1-1x03



Decal Assy (Domestic) Fig 1-1x03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		70000530	DECAL-DANGER	4	
2		70000563	DECAL-WARNING (UND)	2	
3		2326315	DECAL-WARNING	1	
4		2326324	DECAL-WARNING/REFUEL	1	
5		70000044	DECAL-WARNING (AT/UND)	1	

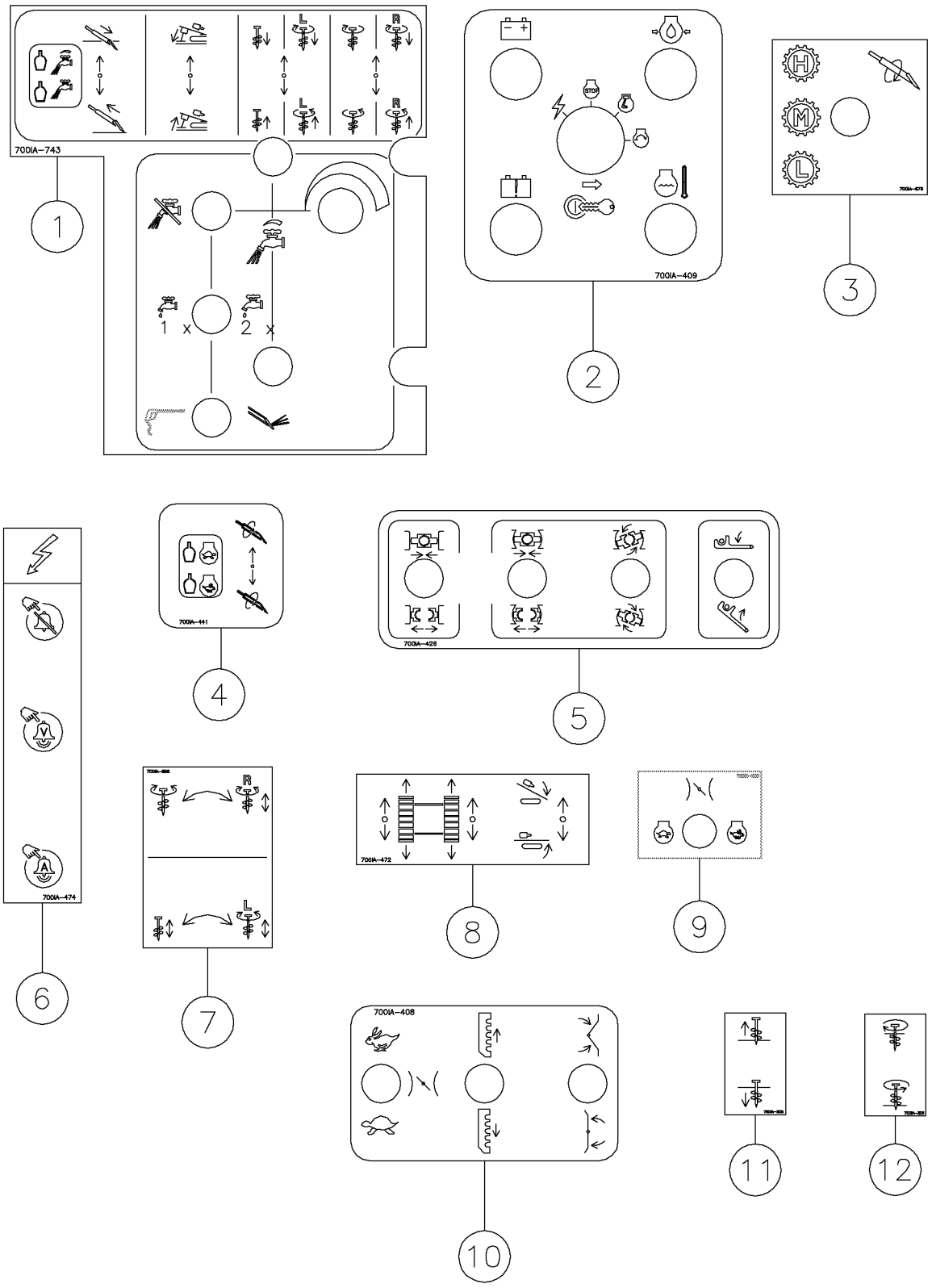
Decal Assy (Domestic) Fig 1-1x04r01



Decal Assy (Domestic) Fig 1-1x04r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		700IB184	DECAL-CONT. PANEL	1	S/N 101-1548, 1610
2		700IA409	DECAL-IGN. (UND)	1	S/N 101-1548, 1610
3		700IA679	DECAL-DRILL 3 POSITION	1	
4		700IB178	DECAL-ROD ROTATION (UG)	1	
5		700IA426	DECAL-ROD VISES (UND)	1	
6		700IA474	DECAL-STRIKE ALERT (UG)	1	S/N 101-
7		700IA696	DECAL-HYD. STAKE/REMOTE	1	
8		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
9		700IA639	DECAL	1	
10		700IA408	DECAL-LOADER (UND)	1	Early Models
11		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	
12		700IA306	DECAL-STAKE DRIVER ROTAT.(UND)	1	

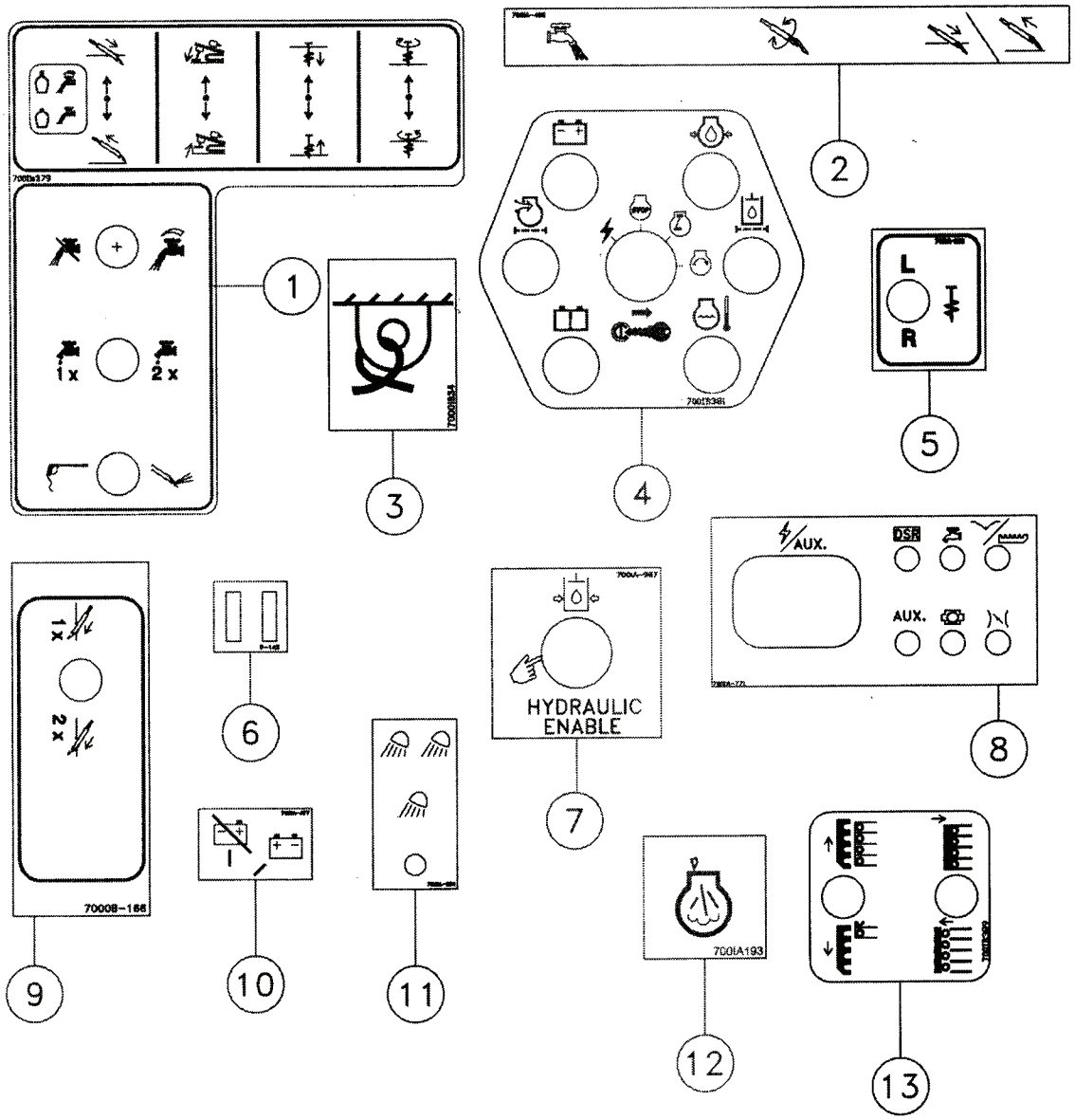
Decal Assy (Domestic) Fig 1-1x04



Decal Assy (Domestic) Fig 1-1x04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		700IB184	DECAL-CONT. PANEL	1	S/N 101-1548, 1610
2		700IA409	DECAL-IGN. (UND)	1	S/N 101-1548, 1610
3		700IA679	DECAL-DRILL 3 POSITION	1	
4		700IB178	DECAL-ROD ROTATION (UG)	1	
5		700IA426	DECAL-ROD VISES (UND)	1	
6		700IA474	DECAL-STRIKE ALERT (UG)	1	S/N 101-
7		700IA696	DECAL-HYD. STAKE/REMOTE	1	
8		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
9		700IA639	DECAL	1	
10		700IA408	DECAL-LOADER (UND)	1	Early Models
11		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	
12		700IA306	DECAL-STAKE DRIVER ROTAT.(UND)	1	

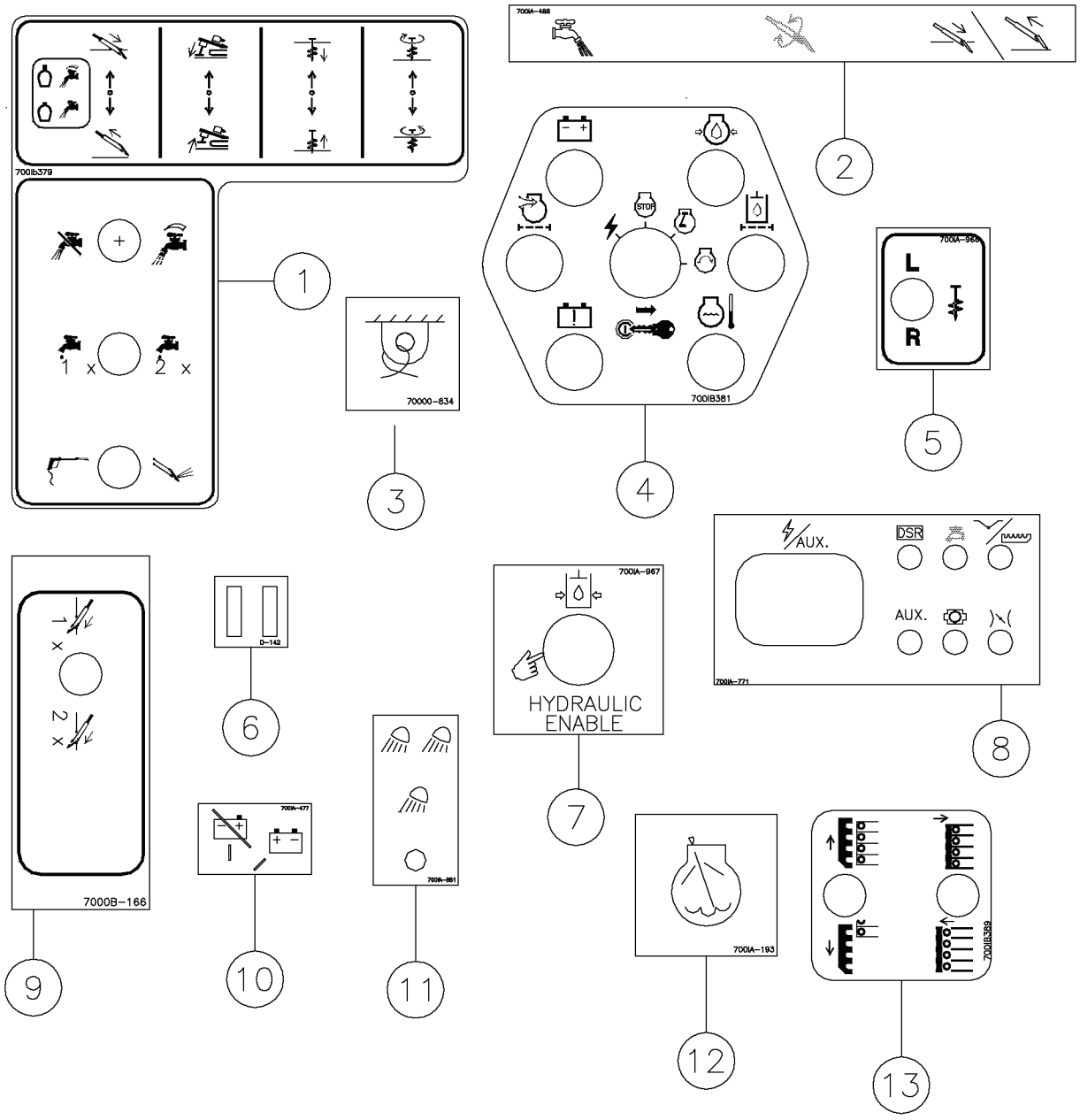
Decal Assy (Domestic) Fig 1-1x05r01



Decal Assy (Domestic) Fig 1-1x05r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		700IB379	DECAL - CONTROL PANEL	1	S/N 1549, 1611-
2		700IA488	DECAL-INSTRUMENTS (UG)	1	
3		7000I834	DECAL - TIE DOWN POINT	5	
4		700IB381	DECAL - IGNITION	1	S/N 1549, 1611-
5		700IA966	DECAL-STAKE LEFT-RIGHT	1	
6		2326142	DECAL-INDICATOR	1	
7		700IA967	DECAL-HYDRAULIC PRESET	1	
8		700IA771	DECAL-BREAKER LIGHTS	1	
9		7000B166	DECAL - THRUST	1	
10		700IA477	DECAL_BATTERY SWITCH (UG)	1	
11		700IA881	DECAL-WORK LIGHT	1	
12		700IA193	DECAL-ETHER STARTING (UND)	1	
13		700IB389	DECAL - LOADER (UND)	1	

Decal Assy (Domestic) Fig 1-1x05



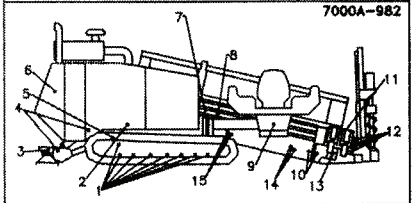
Decal Assy (Domestic) Fig 1-1x05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		700IB379	DECAL - CONTROL PANEL	1	S/N 1549, 1611-
2		700IA488	DECAL-INSTRUMENTS (UG)	1	
3		7000I834	DECAL - TIE DOWN POINT	5	
4		700IB381	DECAL - IGNITION	1	S/N 1549, 1611-
5		700IA966	DECAL-STAKE LEFT-RIGHT	1	
6		2326142	DECAL-INDICATOR	1	
7		700IA967	DECAL-HYDRAULIC PRESET	1	
8		700IA771	DECAL-BREAKER LIGHTS	1	
9		7000B166	DECAL - THRUST	1	
10		700IA477	DECAL_BATTERY SWITCH (UG)	1	
11		700IA881	DECAL-WORK LIGHT	1	
12		700IA193	DECAL-ETHER STARTING (UND)	1	
13		700IB389	DECAL - LOADER (UND)	1	

Decal Assy (Domestic) Fig 1-1x06r01

D24X26 LUBRICATION CHART

7000A-982



REF. NO.	DESCRIPTION	NO. SHOTS	INTERVALS (HOURS)
1	TRACK ROLLER (BOTH TRACKS)	2	50
2	RACK PIVOT	1	50
3	OUTRIGGER PIVOT PIN	1	50
4	OUTRIGGER CYLINDER CONNECTIONS	1	50
5	OUTRIGGER PIN CONNECTION	1	50
6	RACK UPPER ROLLER PIN	1	50
7	SEAT PIVOT PIN	2	50
8	SEAT PIVOT LATCH	2	50
9	CONTROL CONSOLE PIVOT	2	50
10	CYLINDER ROLLER ASSY. PINS	2	50
11	VISE AND VISE CYLINDERS (24 PORTS)	2	50
12	DRILL ROD SUPPORT ROLLERS	2	50
13	RACK LOWER ROLLER PIN	1	50
14	LOWER ROD LIFTER/SELECTOR ASSY.		50
15	UPPER ROD LIFTER/SELECTOR ASSY.		50

See Operator's manual for detailed lubrication instructions

1

Notice •Avis •Hinweis •Avviso •Aviso •

If you purchased this product as used equipment, you can receive a FREE Operator's Manual by contacting:

Si vous avez acheté cet équipement d'occasion, vous pouvez recevoir un manuel de l'opérateur GRATUIT en composant le:

Wenn Sie diese Maschine gebraucht erworben haben, können Sie eine KOSTENLOSE Betriebsanleitung wie folgt anfordern:

Se si è comprata la presente macchina usata, si può ricevere una copia del manuale dell'operatore IN OMAGGIO, contattando:

Si este producto que ha comprado es un equipo usado, puede recibir un manual del operador GRATUITO llamando al:

Vermeer Manufacturing Company
ATTN: Customer Data Department
1210 Vermeer Road East, PO BOX 200
Pella, IA 50219 USA
800-829-0051 or 641-628-3141
Telephone: English speaking only
Téléphone: en anglais uniquement
Telefon: Nur in Englischer Sprache
Telefono: tutte le comunicazioni saranno in inglese
Teléfono: en inglés solamente

OR by completing and mailing the Used Equipment Registration Form enclosed in the Operator's Manual.

OU en remplissant et en envoyant le formulaire d'enregistrement de l'équipement d'occasion inclus dans le manuel de l'opérateur.

ODER das in der Betriebsanleitung enthaltene Formular zur Registrierung gebrauchter Ausrüstung ausfüllen und einsenden.

OPPURE compilando e spedendo il modulo di registrazione per macchinari usati, acciuso al manuale dell'operatore.

O rellenando y enviando por correo el impreso de registro de equipos usados incluido en el manual del operador.

2

This product may be covered by one or more of the following patents:

CA D 79,593	US	5,237,888	US	5,746,278	US 6,290,155
CC 95 914 404.5	US	5,291,964	US	5,768,811	US 6,308,787
CC ZL96195734.4	US	5,507,441	US	5,778,991	US 6,315,062
DE 696 11 846	US	5,509,220	US	5,819,859	US 6,332,502
DE Des. 96 006 85.4	US	5,544,055	US	5,845,689	US 6,357,537
EP 772,543	US	5,553,407	US	5,904,210	US 6,360,830
EP 885,343	US	5,556,253	US	5,941,320	US 6,367,564
GB 2,053,636	US	5,574,642	US	5,944,121	US 6,374,928
HK 1015859	US	5,588,474	US	5,950,942	US 6,382,330
RU 2,141,907	US	5,590,041	US	6,014,996	US 6,389,360
RU 2,158,952	US	5,607,280	US	6,050,350	US 6,390,207
RU 2,175,368	US	5,611,496	US	6,109,367	US 6,408,952
US Des. 308,682	US	5,657,803	US	6,119,376	US 6,408,954
US Des. 396,837	US	5,659,985	US	6,138,932	US 6,412,715
US 4,848,423	US	5,687,807	US	6,154,987	US 6,422,495
US 5,074,063	US	5,692,548	US	6,161,630	
US 5,088,532	US	5,692,549	US	6,195,922	
US 5,205,181	US	5,704,142	US	6,247,544	
US 5,219,380	US	5,720,354	US	6,289,997	

This product may be covered by one or more of the following licensed patents:

US 4,694,913 US 4,867,255 US 5,148,880
US 4,858,704 US 4,953,638 US 5,799,740

(OTHER U.S. AND FOREIGN PATENTS PENDING)

4

VERMEER HY POWER

This hydraulic oil was installed at the factory. Refer to service manual for other equivalent oils

3

USE GRADE 2 DIESEL FUEL OR BETTER

5

6

HYDRAULIC OIL

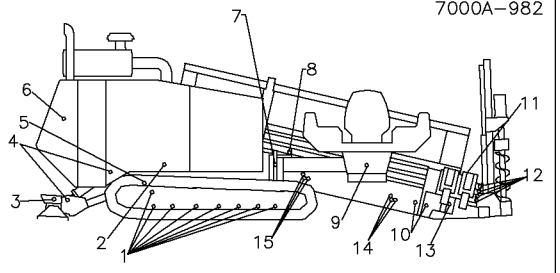
Decal Assy (Domestic) Fig 1-1x06r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		7000A900	DECAL-D24X40A LUBE CHART	1	
2		2326940	DECAL-NOTICE TO OWNERS	1	
3		70000394	DECAL-VERMEER HY POWER	1	
4		7000B119	DECAL - PATENT INDUSTRIAL	1	
5		70000098	DECAL-DIESEL (AT/UND)	1	
6		2326756	DECAL-HYDRAULIC OIL	1	
		901228069	DECAL ASSY-D24X40A NAV DOMESTIC		Includes all items in Fig. 1-1x01 thru 1-1x06

Decal Assy (Domestic) Fig 1-1x06

D24X26 LUBRICATION CHART

7000A–982



REF. NO.	DESCRIPTION	NO. SHOTS	INTERVALS (HOURS)
1	TRACK ROLLER (BOTH TRACKS)	2	50
2	RACK PIVOT	1	50
3	OUTRIGGER PIVOT PIN	1	50
4	OUTRIGGER CYLINDER CONNECTIONS	1	50
5	OUTRIGGER PIN CONNECTION	1	50
6	RACK UPPER ROLLER PIN	1	50
7	SEAT PIVOT PIN	2	50
8	SEAT PIVOT LATCH	2	50
9	CONTROL CONSOLE PIVOT	2	50
10	CYLINDER ROLLER ASSY. PINS	2	50
11	VISE AND VISE CYLINDERS (24 PORTS)	2	50
12	DRILL ROD SUPPORT ROLLERS	2	50
13	RACK LOWER ROLLER PIN	1	50
14	LOWER ROD LIFTER/SELECTOR ASSY.		50
15	UPPER ROD LIFTER/SELECTOR ASSY.		50

See Operator's manual for detailed lubrication instructions

1

NOTICE TO OWNER

You are requested to notify Vermeer Mfg. Co when you have purchased this machine. Methods of Notification:

1. New machine owner: Ask your dealer to fill out and return your Limited Warrnaty Card.
2. Pre–owned machine owner: Send in Customer Data Card (located in operator's manual) or write Vermeer Mfg. Co. at Box 200, Pella, Iowa 50219 ATTN: Customer Data Dept. or call 1–800–829–0051 or (515) 628–3141.

An owner of a pre–owned machine will receive a free operator's manual if requested (1 per owner). A new machine owner will receive an operator's manual with the machine.

2326–940

2

VERMEER HY POWER

This hydraulic oil was installed at the factory. Refer to service manual for other equivalent oils

70000–394

3

THIS MACHINE MAY BE COVERED BY ONE OR MORE OF THE FOLLOWING PATENTS

Canadian Des. Pat. #79,593	US Pat. #5,574,642
US Des. Pat. #308,682	US Pat. #5,588,474
US Des. Pat. #396,837	US Pat. #5,590,041
UK Regd. Pat. #2,053,636	US Pat. #5,607,280
US Pat. #4,848,423	US Pat. #5,611,496
US Pat. #4,961,542	US Pat. #5,657,803
US Pat. #5,074,063	US Pat. #5,659,985
US Pat. #5,088,532	US Pat. #5,687,807
US Pat. #5,129,336	US Pat. #5,692,548
US Pat. #5,205,181	US Pat. #5,692,549
US Pat. #5,219,380	US Pat. #5,704,142
US Pat. #5,291,964	US Pat. #5,720,354
US Pat. #5,355,965	US Pat. #5,746,278
US Pat. #5,394,583	US Pat. #5,768,811
US Pat. #5,507,441	US Pat. #5,778,991
US Pat. #5,509,220	US Pat. #5,803,380
US Pat. #5,544,055	US Pat. #5,819,859
US Pat. #5,553,407	US Pat. #5,845,689
US Pat. #5,556,253	

(OTHER U.S. AND FOREIGN PATENTS PENDING)

7000B–119

4

USE GRADE 2 DIESEL FUEL OR BETTER

70000–098

5

6

HYDRAULIC OIL

2326–756

Decal Assy (Domestic) Fig 1-1x06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		7000A900	DECAL-D24X40A LUBE CHART	1	
2		2326940	DECAL-NOTICE TO OWNERS	1	
3		70000394	DECAL-VERMEER HY POWER	1	
4		7000B119	DECAL - PATENT INDUSTRIAL	1	
5		70000098	DECAL-DIESEL (AT/UND)	1	
6		2326756	DECAL-HYDRAULIC OIL	1	
		901228069	DECAL ASSY-D24X40A NAV DOMESTIC		Includes all items in Fig. 1-1x01 thru 1-1x06

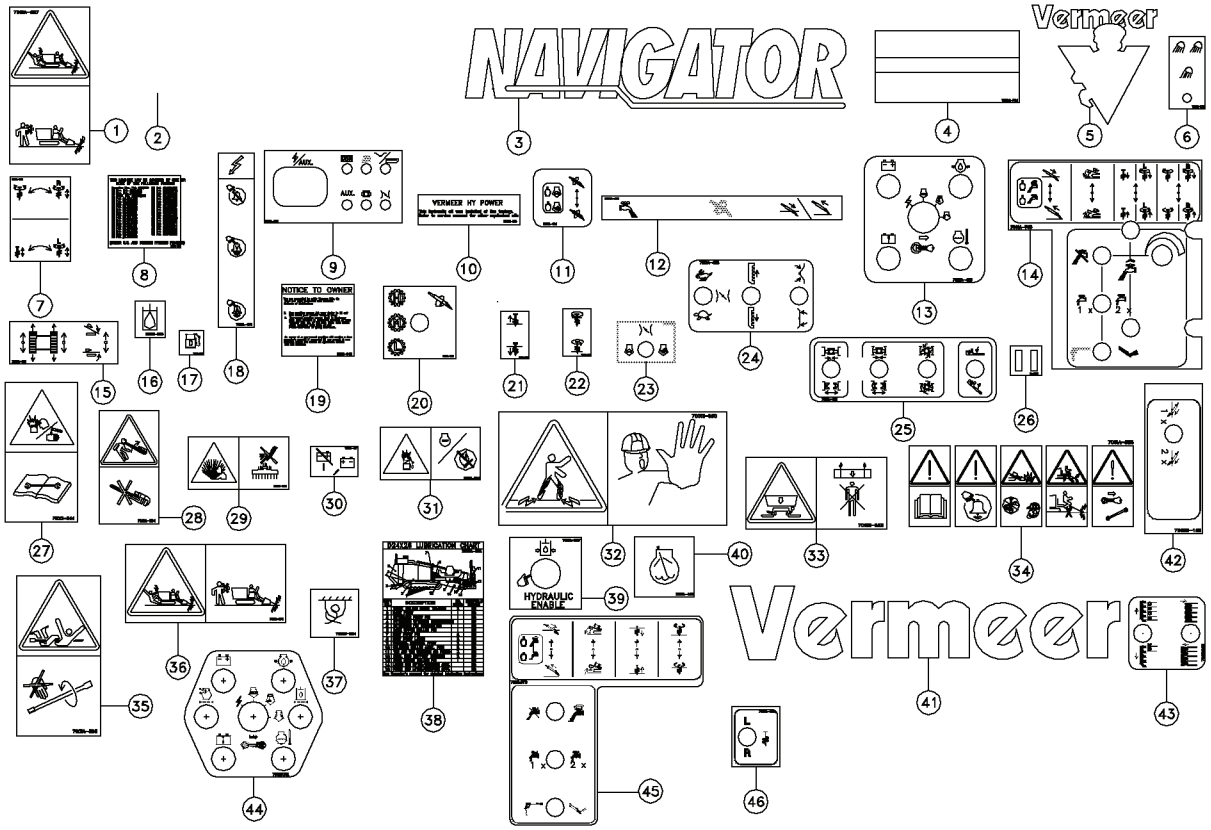
Decal Assy (International) Fig 1-2r06

FIGURE DELETED DUE TO UPDATE

Decal Assy (International) Fig 1-2r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Deleted From Manual
			Replaced with Figures 1-2x01 Thru 1-2x06		

Decal Assy (International) Fig 1-2r05

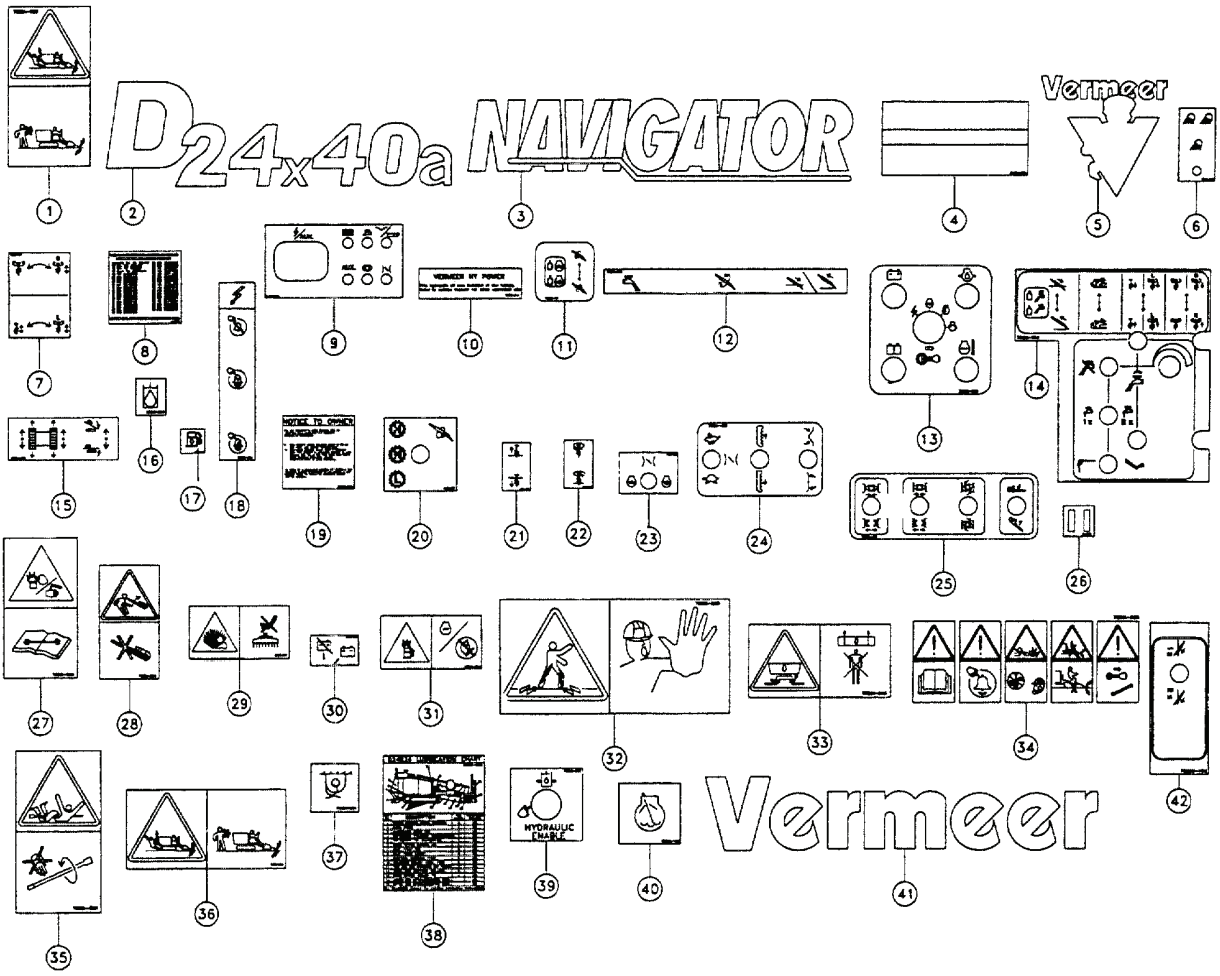


Decal Assy (International) Fig 1-2r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		700IA627	DECAL-DANGER	4	
2		7000A778	DECAL-MODEL (D24 X 40A)	2	
3		70000614	DECAL-MODEL NAVIGATOR (BIG)	1	
3		7000A010	DECAL-NAVIGATOR 2 7/16 X 13	1	
4		70000775	DECAL 3” VERMEER STRIPE	A/R	P/N Qty Of 1 = 1 Foot, 9 Feet 6 Inches Required
5		70000785	DECAL 8” VERMEER LOGO	2	
5		70000784	DECAL-6” VERMEER LOGO	1	
6		700IA881	DECAL-WORK LIGHT	1	
7		700IA696	DECAL-HYD. STAKE/REMOTE	1	
8		7000B119	DECAL-PATENT	1	
9		700IA771	DECAL-BREAKER LIGHTS	1	
10		70000394	DECAL-VERMEER HY POWER	1	
11		700IB178	DECAL-ROD ROTATION	1	
12		700IA488	DECAL-INSTRUMENTS (UG)	1	
13		700IA409	DECAL-IGN. (UND)	1	S/N 101-1548, 1550-1610
14		700IB184	DECAL-CONT. PANEL	1	S/N 101-1548, 1550-1610
15		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
16		2326I756	DECAL-HYDRAULIC FLUID	1	
17		7000I098	DECAL-DIESEL FUEL	1	
18		700IA474	DECAL-STRIKE ALERT (UG)	1	S/N 101-1548, 1550-1610
19		2326940	DECAL-NOTICE TO OWNERS	1	
20		700IA679	DECAL-DRILL 3 POSITION	1	
21		700IA306	DECAL-STAKE DRIVER ROTAT. (UND)	1	
22		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	
23		700IA639	DECAL	1	
24		700IA408	DECAL-LOADER (UND)	1	Early Models
25		700IA426	DECAL-ROD VISES (UND)	1	
26		2326142	DECAL-INDICATOR	1	
27		7000I044	DECAL-WARNING	1	
28		700IA394	DECAL-WARNING	1	
29		2326I315	DECAL-WARNING	1	
			Figure Continued On Next Page		

Decal Assy (International) (Continued) Fig 1-2r05

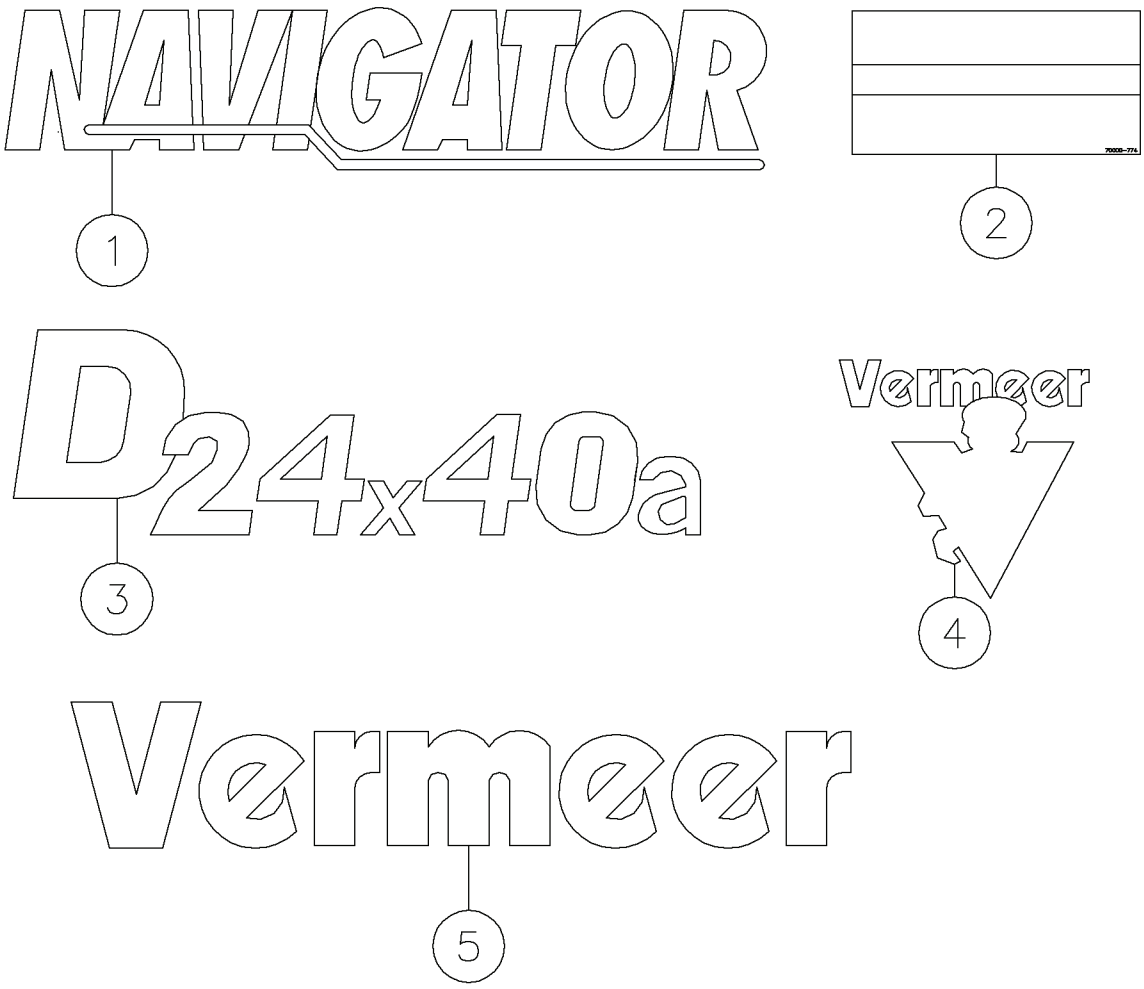
Revised November 1999 due to update in decal assy. Changed part marked with *.



Decal Assy (International) (Continued) Fig 1-2r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
30		700IA477	DECAL-BATTERY SWITCH (UG)	1	
31		2326I324	DECAL-WARNING	1	
32		7000I530	DECAL-DANGER	4	
33		7000I563	DECAL-WARNING (UND)	2	
34		700IA528	DECAL-WARNING	1	
35		700IA393	DECAL-DANGER	1	
36		700IA576	DECAL-DANGER	1	
37		7000I834	DECAL-TIE DOWN POINT	5	
38		7000A900	DECAL-D24 X 40A LUBE CHART	1	
39		700IA967	DECAL-HYDRAULIC PRESET	1	
40		700IA193	DECAL-ETHER STARTING (UND)	1	
41		2326619	DECAL-VERMEER 3 X 15	1	
41		7000B059	DECAL-MODEL VERMEER 6”	1	
42		7000B166	DECAL-THRUST	1	
43	*	700IB389	DECAL-LOADER (UND)	1	
44	*	700IB381	DECAL-IGNITION (UND)	1	S/N 1549, 1611 -
45	*	700IB379	DECAL-CONTROL PANEL	1	S/N 1549, 1611 -
46	*	700IA966	DECAL-STAKE LEFT-RIGHT	1	
		901228070	DECAL ASSY-D24 X 40A NAV INTERNA		Includes All Items In Figure

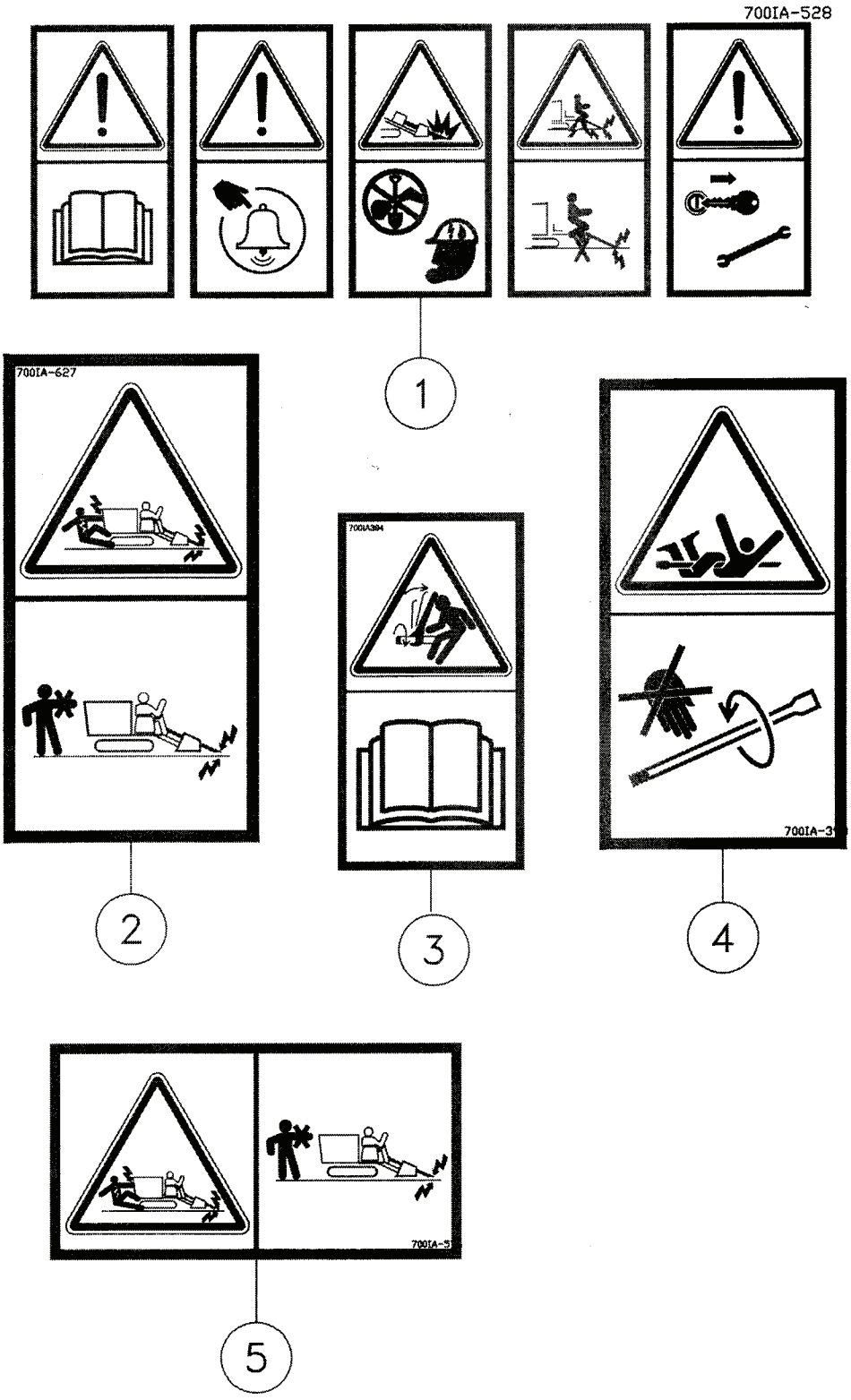
Decal Assy (International) Fig 1-2x01



Decal Assy (International) Fig 1-2x01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		70000614	DECAL-MODEL NAVIGATOR (BIG)	1	
1		7000A010	DECAL-NAVIGATOR 2 7/16 X 13	1	
2		70000775	DECAL 3” VERMEER STRIPE	A/R	P/N Qty Of 1 = 1 Foot, 9 Feet 6 Inches Required
3		7000A778	DECAL-MODEL (D24 X 40A)	2	
4		70000785	DECAL 8” VERMEER LOGO	2	
4		70000784	DECAL-6” VERMEER LOGO	1	
5		2326619	DECAL- VERMEER 3 X 15	1	
5		7000B059	DECAL - VERMEER 6”	1	

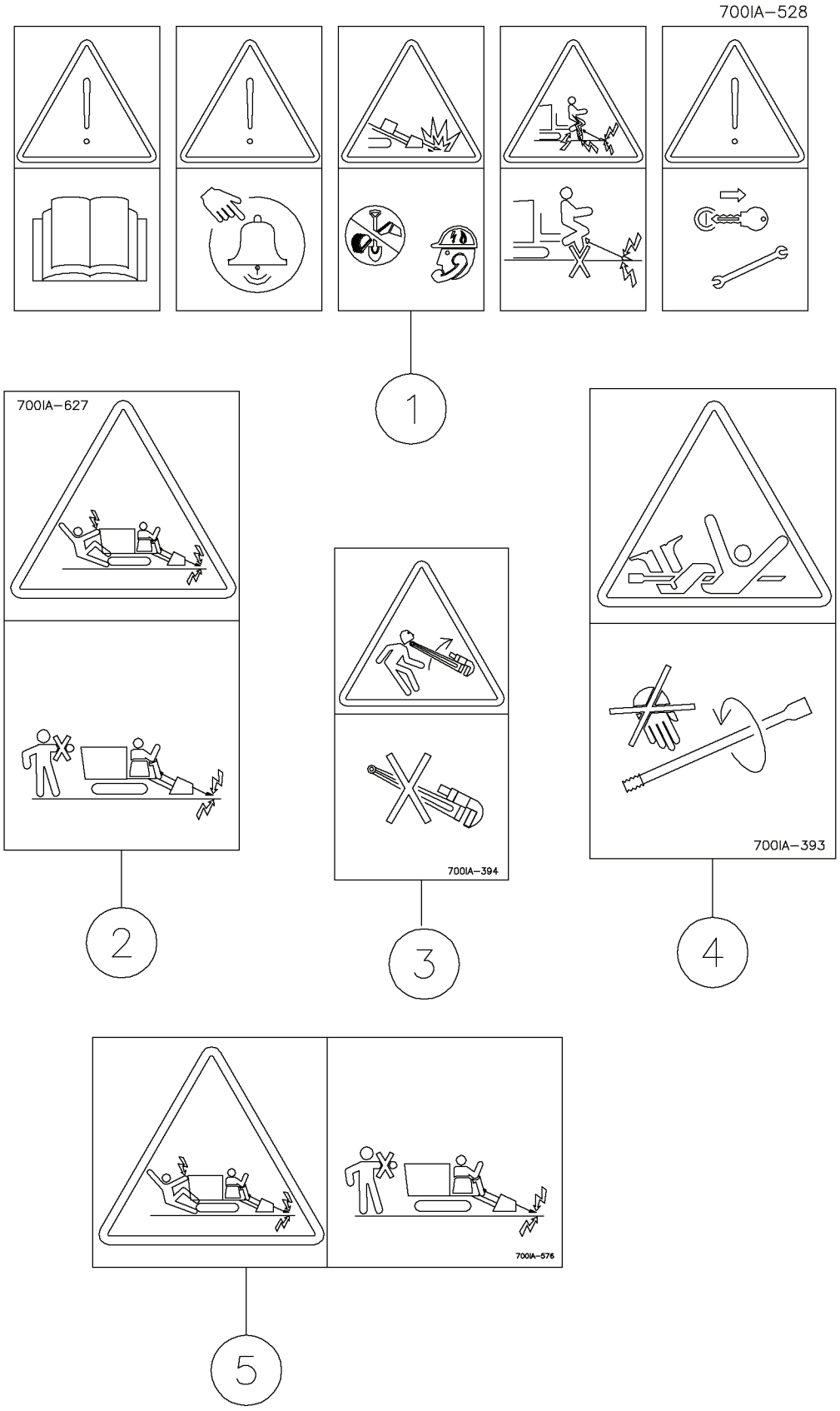
Decal Assy (International) Fig 1-2x02r01



Decal Assy (International) Fig 1-2x02r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		700IA528	DECAL-WARNING	1	
2		700IA627	DECAL-DANGER	4	
3		700IA394	DECAL-WARNING	1	
4		700IA393	DECAL - DANGER	1	
5		700IA576	DECAL-DANGER	1	

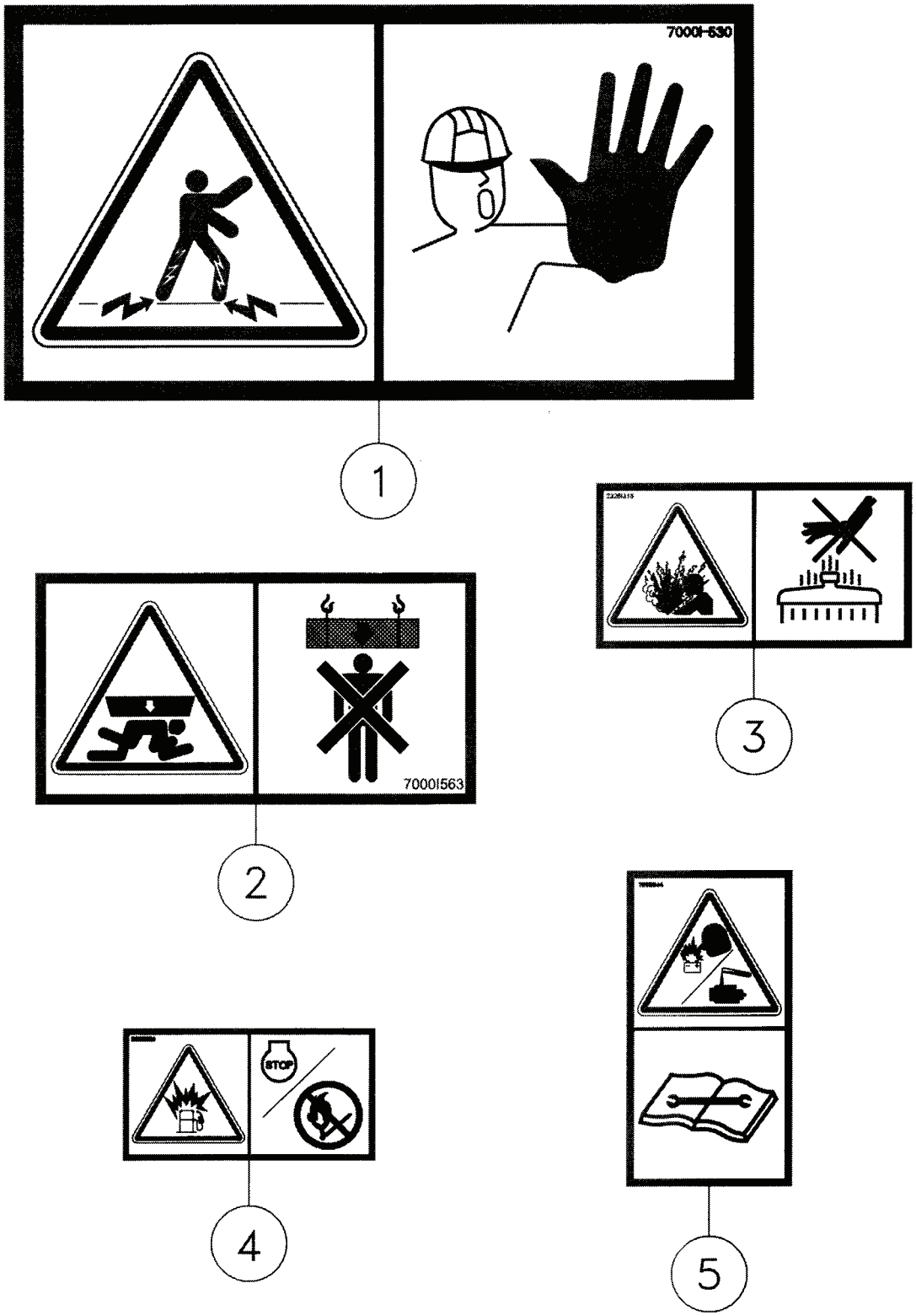
Decal Assy (International) Fig 1-2x02



Decal Assy (International) Fig 1-2x02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		700IA528	DECAL-WARNING	1	
2		700IA627	DECAL-DANGER	4	
3		700IA394	DECAL-WARNING	1	
4		700IA393	DECAL - DANGER	1	
5		700IA576	DECAL-DANGER	1	

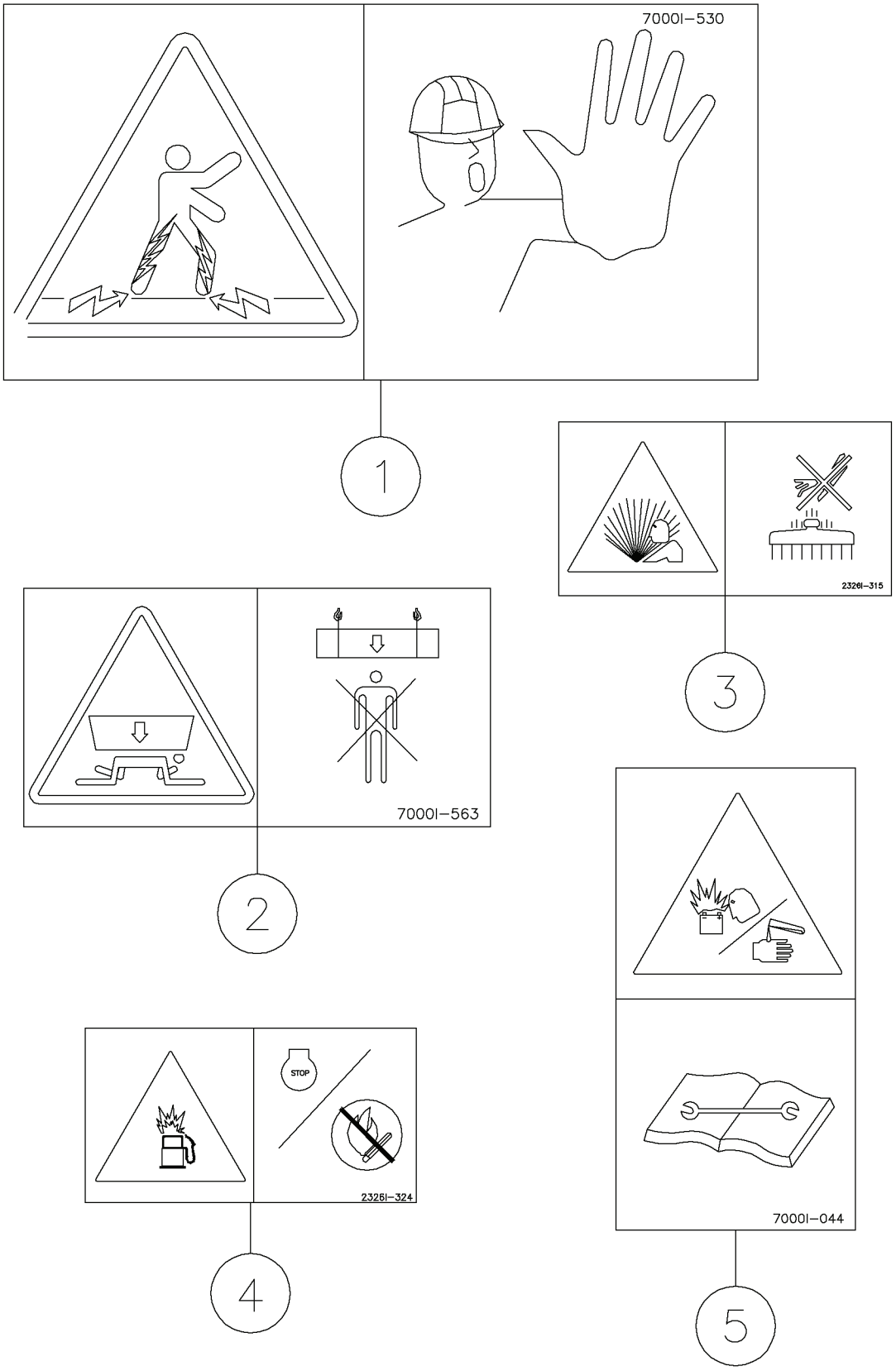
Decal Assy (International) Fig 1-2x03r01



Decal Assy (International) Fig 1-2x03r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		7000I530	DECAL-WARNING (NAVIGATORS)	4	
2		7000I563	DECAL-WARNING (UND)	2	
3		2326I315	DECAL-WARNING	1	
4		2326I324	DECAL-WARNING	1	
5		7000I044	DECAL-WARNING	1	

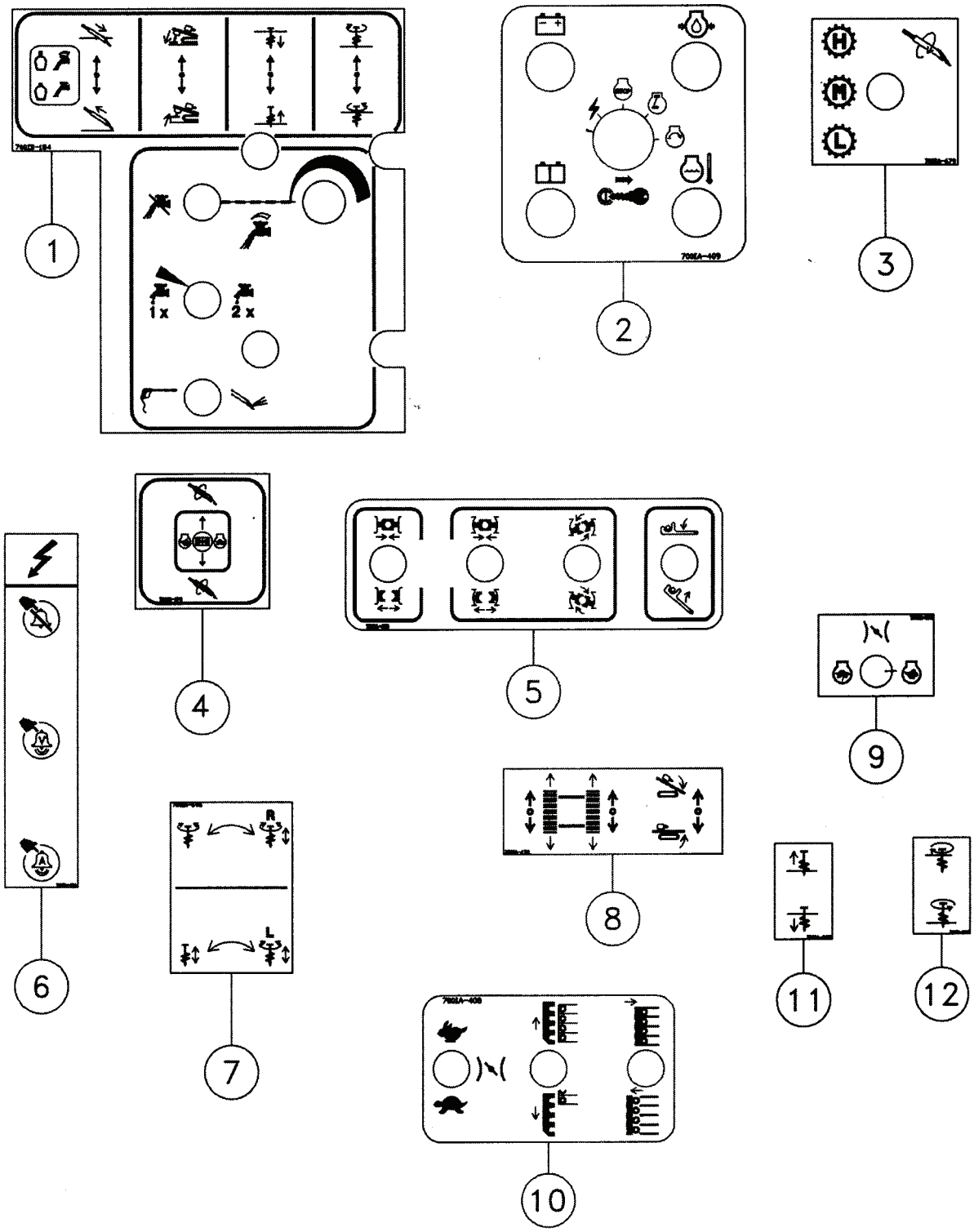
Decal Assy (International) Fig 1-2x03



Decal Assy (International) Fig 1-2x03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		7000I530	DECAL-WARNING (NAVIGATORS)	4	
2		7000I563	DECAL-WARNING (UND)	2	
3		2326I315	DECAL-WARNING	1	
4		2326I324	DECAL-WARNING	1	
5		7000I044	DECAL-WARNING	1	

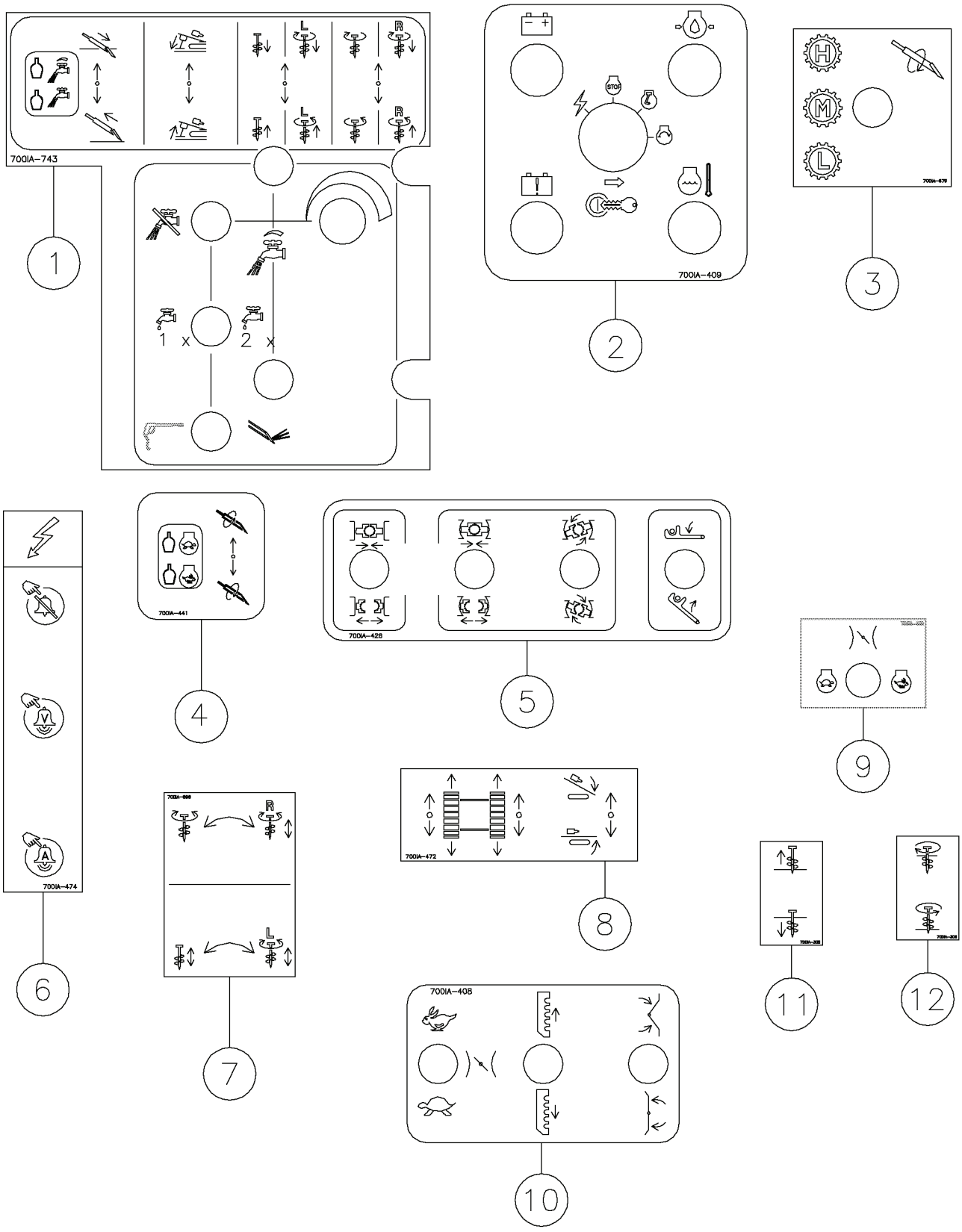
Decal Assy (International) Fig 1-2x04r01



Decal Assy (International) Fig 1-2x04r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		700IB184	DECAL-CONT. PANEL	1	S/N 101-1548, 1550-1610
2		700IA409	DECAL-IGN. (UND)	1	S/N 101-1548, 1550-1610
3		700IA679	DECAL-DRILL 3 POSITION	1	
4		700IB178	DECAL-ROD ROTATION	1	
5		700IA426	DECAL-ROD VISES (UND)	1	
6		700IA474	DECAL-STRIKE ALERT (UG)	1	S/N 101-1548, 1550-1610
7		700IA696	DECAL-HYD. STAKE/REMOTE	1	
8		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
9		700IA639	DECAL	1	
10		700IA408	DECAL-LOADER (UND)	1	Early Models
11		700IA306	DECAL-STAKE DRIVER ROTAT. (UND)	1	
12		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	

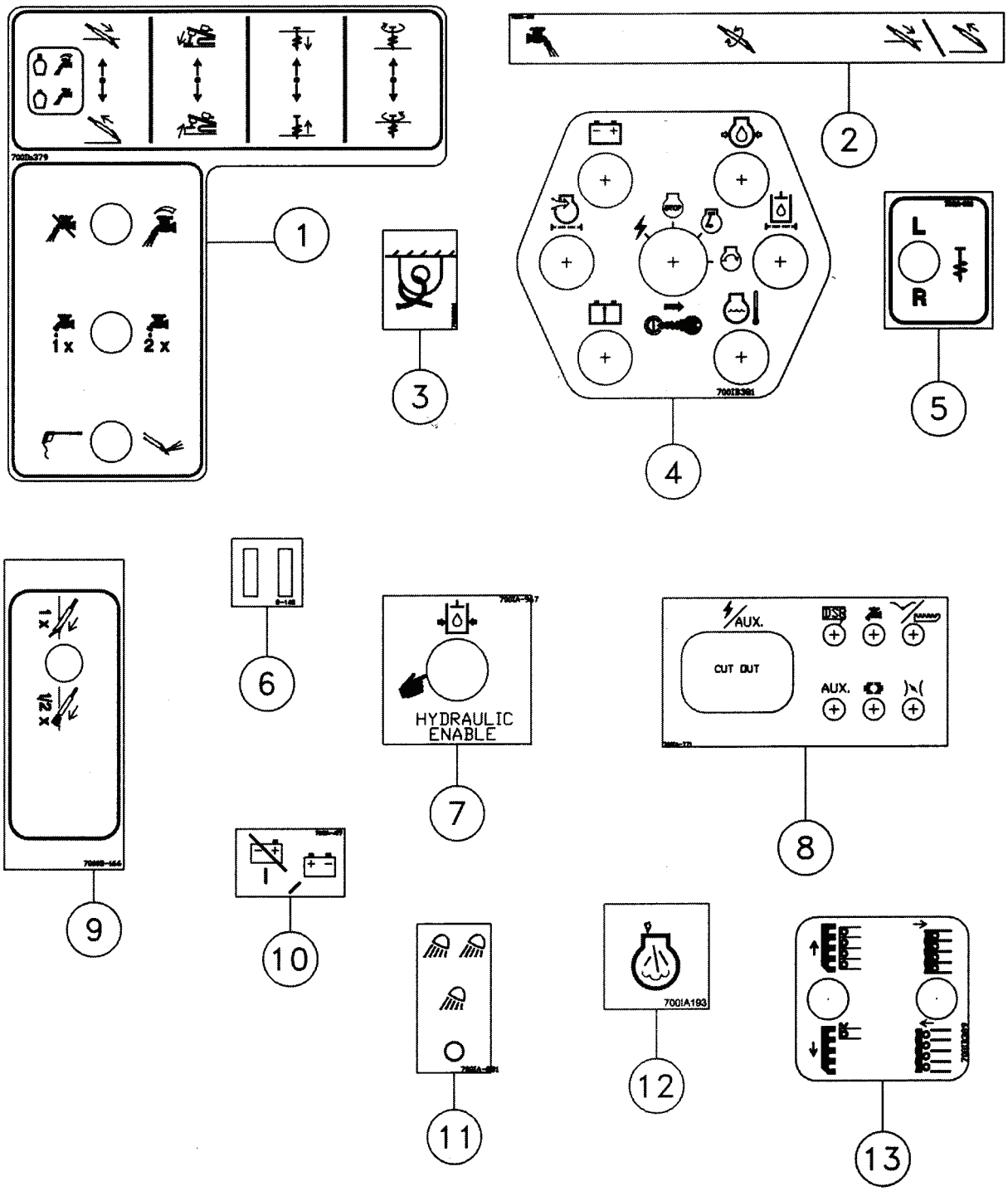
Decal Assy (International) Fig 1-2x04



Decal Assy (International) Fig 1-2x04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		700IB184	DECAL-CONT. PANEL	1	S/N 101-1548, 1550-1610
2		700IA409	DECAL-IGN. (UND)	1	S/N 101-1548, 1550-1610
3		700IA679	DECAL-DRILL 3 POSITION	1	
4		700IB178	DECAL-ROD ROTATION	1	
5		700IA426	DECAL-ROD VISES (UND)	1	
6		700IA474	DECAL-STRIKE ALERT (UG)	1	S/N 101-1548, 1550-1610
7		700IA696	DECAL-HYD. STAKE/REMOTE	1	
8		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
9		700IA639	DECAL	1	
10		700IA408	DECAL-LOADER (UND)	1	Early Models
11		700IA306	DECAL-STAKE DRIVER ROTAT. (UND)	1	
12		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	

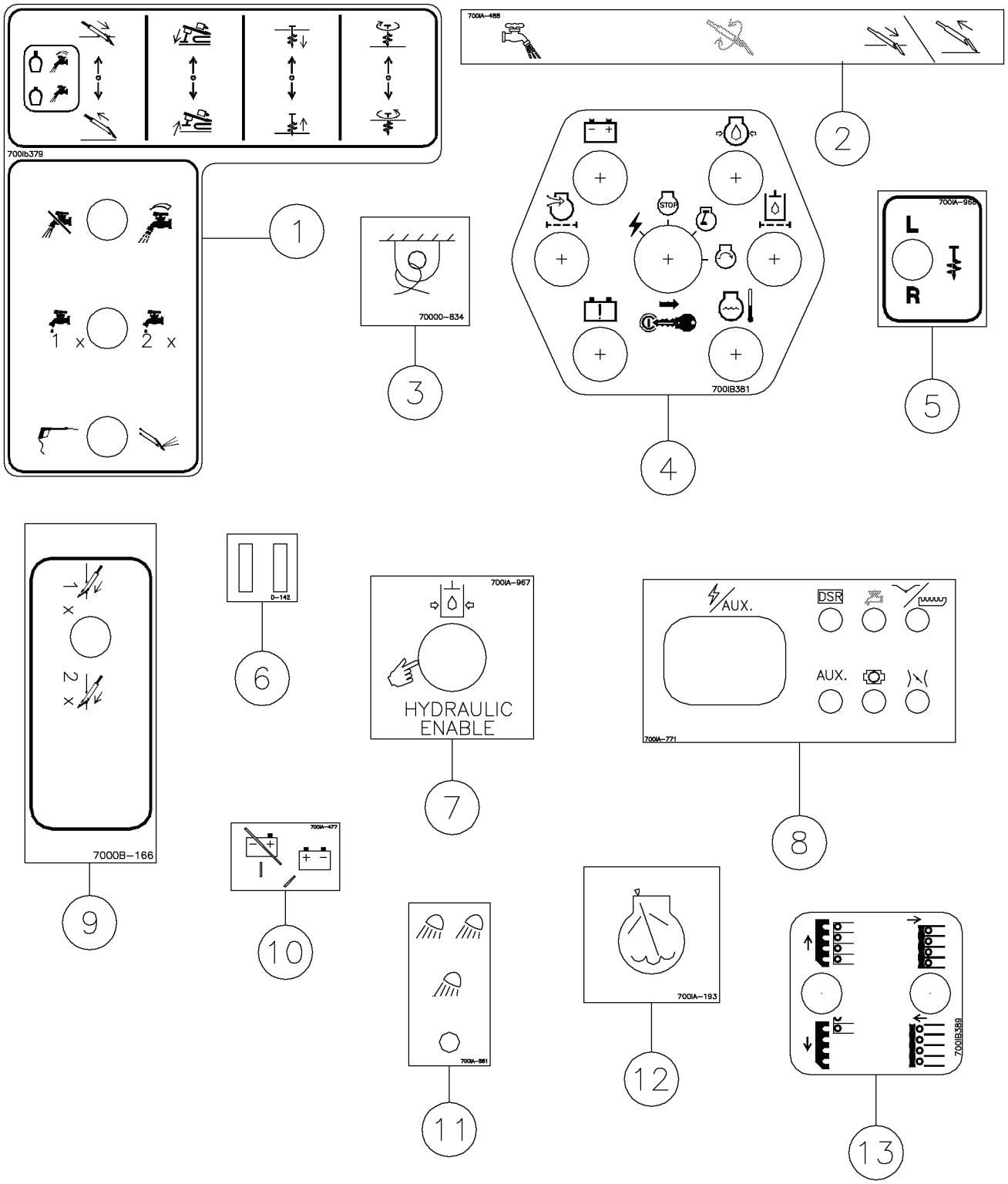
Decal Assy (International) Fig 1-2x05r01



Decal Assy (International) Fig 1-2x05r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		700IB379	DECAL-CONTROL PANEL	1	S/N 1549, 1611 -
2		700IA488	DECAL-INSTRUMENTS (UG)	1	
3		7000I834	DECAL-TIE DOWN POINT	5	
4		700IB381	DECAL-IGNITION (UND)	1	S/N 1549, 1611 -
5		700IA966	DECAL-STAKE LEFT-RIGHT	1	
6		2326142	DECAL-INDICATOR	1	
7		700IA967	DECAL-HYDRAULIC PRESET	1	
8		700IA771	DECAL-BREAKER LIGHTS	1	
9		7000B166	DECAL-THRUST	1	
10		700IA477	DECAL-BATTERY SWITCH (UG)	1	
11		700IA881	DECAL-WORK LIGHT	1	
12		700IA193	DECAL-ETHER STARTING (UND)	1	
13		700IB389	DECAL-LOADER (UND)	1	

Decal Assy (International) Fig 1-2x05



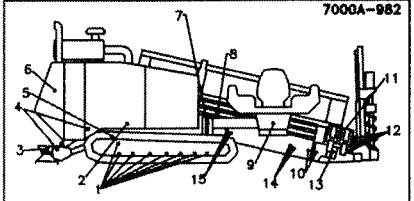
Decal Assy (International) Fig 1-2x05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		700IB379	DECAL-CONTROL PANEL	1	S/N 1549, 1611 -
2		700IA488	DECAL-INSTRUMENTS (UG)	1	
3		7000I834	DECAL-TIE DOWN POINT	5	
4		700IB381	DECAL-IGNITION (UND)	1	S/N 1549, 1611 -
5		700IA966	DECAL-STAKE LEFT-RIGHT	1	
6		2326142	DECAL-INDICATOR	1	
7		700IA967	DECAL-HYDRAULIC PRESET	1	
8		700IA771	DECAL-BREAKER LIGHTS	1	
9		7000B166	DECAL-THRUST	1	
10		700IA477	DECAL-BATTERY SWITCH (UG)	1	
11		700IA881	DECAL-WORK LIGHT	1	
12		700IA193	DECAL-ETHER STARTING (UND)	1	
13		700IB389	DECAL-LOADER (UND)	1	

Decal Assy (International) Fig 1-2x06r01

D24X26 LUBRICATION CHART

7000A-982



REF. NO.	DESCRIPTION	NO. SHOTS	INTERVALS (HOURS)
1	TRACK ROLLER (BOTH TRACKS)	2	50
2	RACK PIVOT	1	50
3	OUTRIGGER PIVOT PIN	1	50
4	OUTRIGGER CYLINDER CONNECTIONS	1	50
5	OUTRIGGER PIN CONNECTION	1	50
6	RACK UPPER ROLLER PIN	1	50
7	SEAT PIVOT PIN	2	50
8	SEAT PIVOT LATCH	2	50
9	CONTROL CONSOLE PIVOT	2	50
10	CYLINDER ROLLER ASSY. PINS	2	50
11	VISE AND VISE CYLINDERS (24 PORTS)	2	50
12	DRILL ROD SUPPORT ROLLERS	2	50
13	RACK LOWER ROLLER PIN	1	50
14	LOWER ROD LIFTER/SELECTOR ASSY.		50
15	UPPER ROD LIFTER/SELECTOR ASSY.		50

See Operator's manual for detailed lubrication instructions

1

Notice •Avis •Hinweis •Avviso •Aviso •

If you purchased this product as used equipment, you can receive a FREE Operator's Manual by contacting:

Si vous avez acheté cet équipement d'occasion, vous pouvez recevoir un manuel de l'opérateur GRATUIT en composant le:

Wenn Sie diese Maschine gebraucht erworben haben, können Sie eine KOSTENLOSE Betriebsanleitung wie folgt anfordern:

Se si è comprata la presente macchina usata, si può ricevere una copia del manuale dell'operatore IN OMAGGIO, contattando:

Si este producto que ha comprado es un equipo usado, puede recibir un manual del operador GRATUITO llamando al:

Vermeer Manufacturing Company
ATTN: Customer Data Department
1210 Vermeer Road East, PO BOX 200
Pella, IA 50219 USA
800-829-0051 or 641-628-3141
Telephone: English speaking only
Téléphone: en anglais uniquement
Telefon: Nur in Englischer Sprache
Telefono: tutte le comunicazioni saranno in inglese
Teléfono: en inglés solamente

OR by completing and mailing the Used Equipment Registration Form enclosed in the Operator's Manual.

OU en remplissant et en envoyant le formulaire d'enregistrement de l'équipement d'occasion inclus dans le manuel de l'opérateur.

ODER das in der Betriebsanleitung enthaltene Formular zur Registrierung gebrauchter Ausrüstung ausfüllen und einsenden.

OPPURE compilando e spedendo il modulo di registrazione per macchinari usati, accluso al manuale dell'operatore.

O rellenando y enviando por correo el impreso de registro de equipos usados incluido en el manual del operador.

2

This product may be covered by one or more of the following patents:

CA D 79,593	US 5,237,888	US 5,746,278	US 6,290,155
CC 95 914 404.5	US 5,291,964	US 5,768,811	US 6,308,787
CC ZL96195734.4	US 5,507,441	US 5,778,991	US 6,315,062
DE 696 11 846	US 5,509,220	US 5,819,859	US 6,332,502
DE Des. 96 006 85.4	US 5,544,055	US 5,845,689	US 6,357,537
EP 772,543	US 5,553,407	US 5,904,210	US 6,360,830
EP 885,343	US 5,556,253	US 5,941,320	US 6,367,564
GB 2,053,636	US 5,574,642	US 5,944,121	US 6,374,928
HK 1015859	US 5,588,474	US 5,950,942	US 6,382,330
RU 2,141,907	US 5,590,041	US 6,014,996	US 6,389,360
RU 2,158,952	US 5,607,280	US 6,050,350	US 6,390,207
RU 2,175,368	US 5,611,496	US 6,109,367	US 6,408,952
US Des. 308,682	US 5,657,803	US 6,119,376	US 6,408,954
US Des. 396,837	US 5,659,985	US 6,138,932	US 6,412,715
US 4,848,423	US 5,687,807	US 6,154,987	US 6,422,495
US 5,074,063	US 5,692,548	US 6,161,630	
US 5,088,532	US 5,692,549	US 6,195,922	
US 5,205,181	US 5,704,142	US 6,247,544	
US 5,219,380	US 5,720,354	US 6,289,997	

This product may be covered by one or more of the following licensed patents:

US 4,694,913	US 4,867,255	US 5,148,880
US 4,858,704	US 4,953,638	US 5,799,740

(OTHER U.S. AND FOREIGN PATENTS PENDING)

4

VERMEER HY POWER

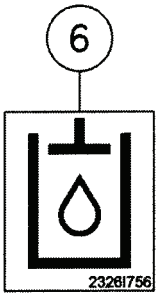
This hydraulic oil was installed at the factory. Refer to service manual for other equivalent oils

70000-394

3



5



6

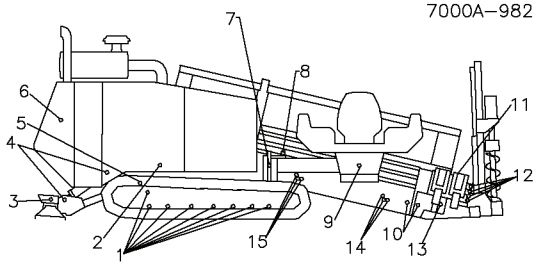
Decal Assy (International) Fig 1-2x06r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration.
1		7000A900	DECAL-D24X40A LUBE CHART	1	
2		2326940	DECAL-NOTICE TO OWNERS	1	
3		70000394	DECAL-VERMEER HY POWER	1	
4		7000B119	DECAL-PATENT	1	
5		7000I098	DECAL-DIESEL FUEL	1	
6		2326I756	DECAL-HYDRAULIC FLUID	1	
		901228070	DECAL ASSY-D24X40A NAV INTERNATIONAL		Includes all items in Fig. 1-2x01 thru 1-2x06

Decal Assy (International) Fig 1-2x06

D24X26 LUBRICATION CHART

7000A–982



REF. NO.	DESCRIPTION	NO. SHOTS	INTERVALS (HOURS)
1	TRACK ROLLER (BOTH TRACKS)	2	50
2	RACK PIVOT	1	50
3	OUTRIGGER PIVOT PIN	1	50
4	OUTRIGGER CYLINDER CONNECTIONS	1	50
5	OUTRIGGER PIN CONNECTION	1	50
6	RACK UPPER ROLLER PIN	1	50
7	SEAT PIVOT PIN	2	50
8	SEAT PIVOT LATCH	2	50
9	CONTROL CONSOLE PIVOT	2	50
10	CYLINDER ROLLER ASSY. PINS	2	50
11	VISE AND VISE CYLINDERS (24 PORTS)	2	50
12	DRILL ROD SUPPORT ROLLERS	2	50
13	RACK LOWER ROLLER PIN	1	50
14	LOWER ROD LIFTER/SELECTOR ASSY.		50
15	UPPER ROD LIFTER/SELECTOR ASSY.		50

See Operator's manual for detailed lubrication instructions

1

NOTICE TO OWNER

You are requested to notify Vermeer Mfg. Co when you have purchased this machine. Methods of Notification:

1. New machine owner: Ask your dealer to fill out and return your Limited Warrnaty Card.
2. Pre–owned machine owner: Send in Customer Data Card (located in operator's manual) or write Vermeer Mfg. Co. at Box 200, Pella, Iowa 50219 ATTN: Customer Data Dept. or call 1–800–829–0051 or (515) 628–3141.

An owner of a pre–owned machine will receive a free operator's manual if requested (1 per owner). A new machine owner will receive an operator's manual with the machine.

2326–940

2

VERMEER HY POWER

This hydraulic oil was installed at the factory. Refer to service manual for other equivalent oils

70000–394

3

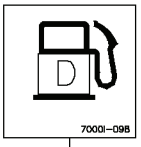
THIS MACHINE MAY BE COVERED BY ONE OR MORE OF THE FOLLOWING PATENTS

Canadian Des. Pat. #79,593	US Pat. #5,574,642
US Des. Pat. #308,682	US Pat. #5,588,474
US Des. Pat. #396,837	US Pat. #5,590,041
UK Regd. Pat. #2,053,636	US Pat. #5,607,280
US Pat. #4,848,423	US Pat. #5,611,496
US Pat. #4,961,542	US Pat. #5,657,803
US Pat. #5,074,063	US Pat. #5,659,985
US Pat. #5,088,532	US Pat. #5,687,807
US Pat. #5,129,336	US Pat. #5,692,548
US Pat. #5,205,181	US Pat. #5,692,549
US Pat. #5,219,380	US Pat. #5,704,142
US Pat. #5,291,964	US Pat. #5,720,354
US Pat. #5,355,965	US Pat. #5,746,278
US Pat. #5,394,583	US Pat. #5,768,811
US Pat. #5,507,441	US Pat. #5,778,991
US Pat. #5,509,220	US Pat. #5,803,380
US Pat. #5,544,055	US Pat. #5,819,859
US Pat. #5,553,407	US Pat. #5,845,689
US Pat. #5,556,253	

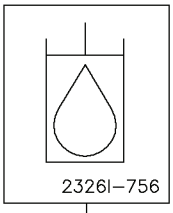
(OTHER U.S. AND FOREIGN PATENTS PENDING)

7000B–119

4



5

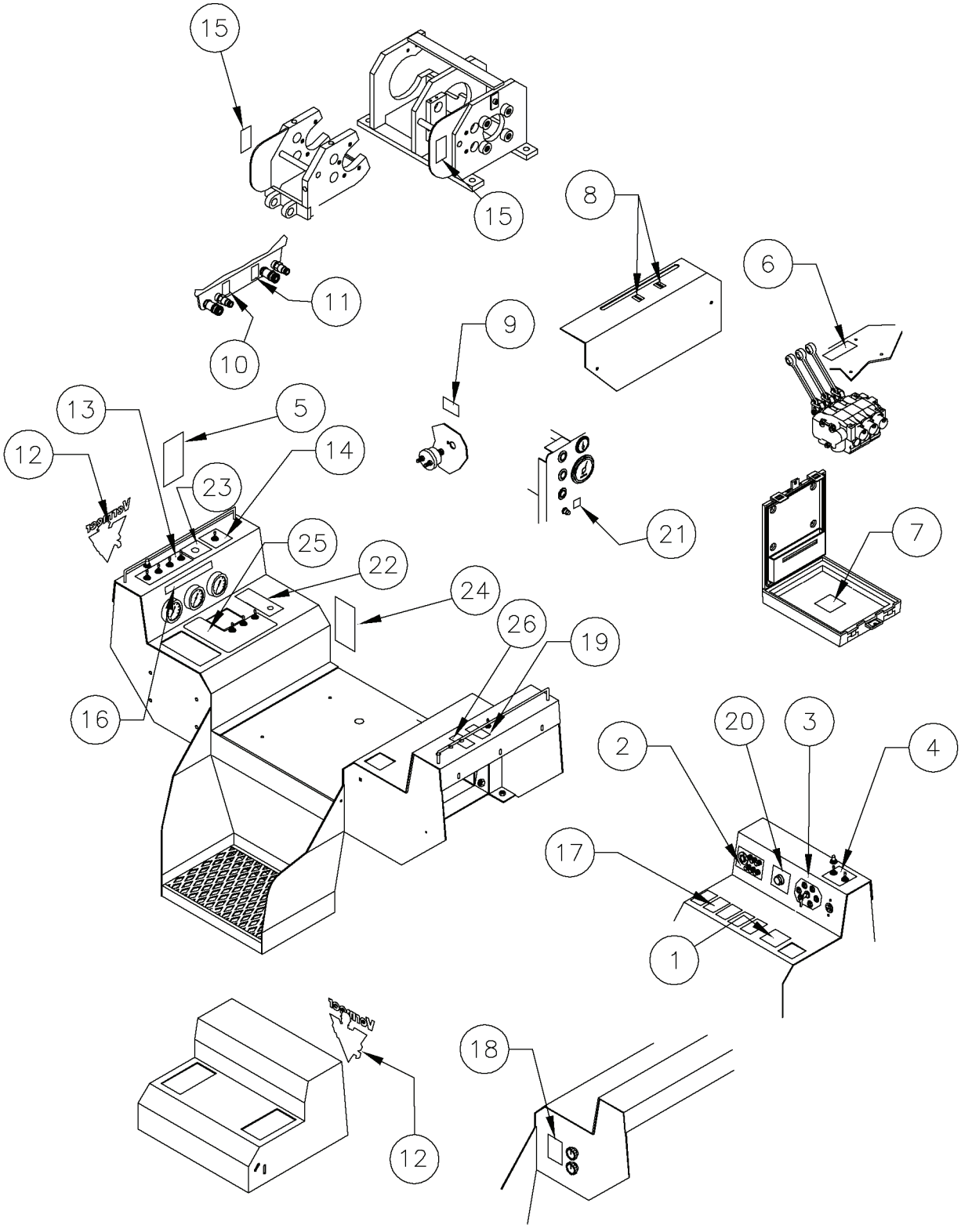


6

Decal Assy (International) Fig 1-2x06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		7000A900	DECAL-D24X40A LUBE CHART	1	
2		2326940	DECAL-NOTICE TO OWNERS	1	
3		70000394	DECAL-VERMEER HY POWER	1	
4		7000B119	DECAL-PATENT	1	
5		7000I098	DECAL-DIESEL FUEL	1	
6		2326I756	DECAL-HYDRAULIC FLUID	1	
		901228070	DECAL ASSY-D24X40A NAV INTERNATIONAL		Includes all items in Fig. 1-2x01 thru 1-2x06

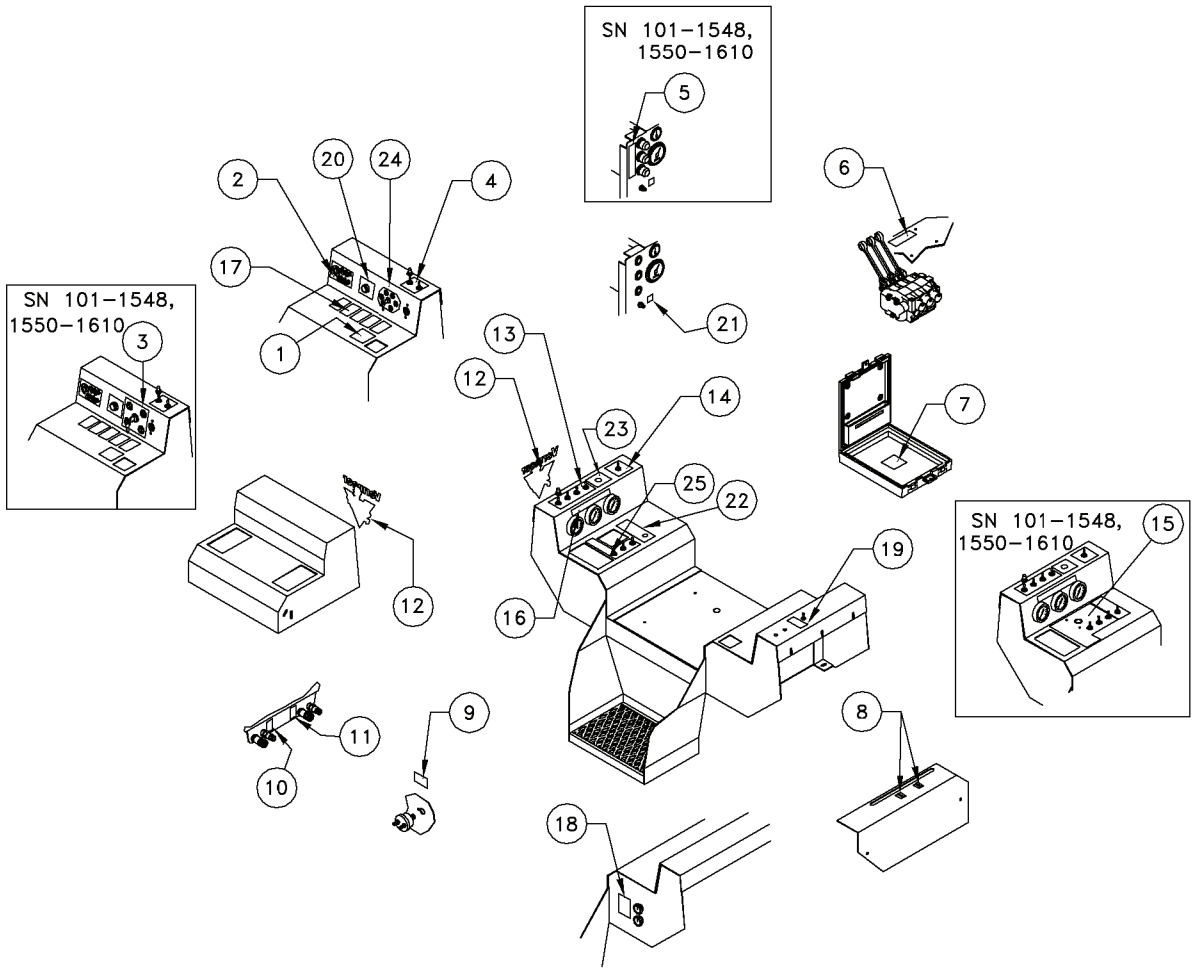
Decal Location Assy Fig 1-3r04



Decal Location Assy Fig 1-3r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		700IA441	DECAL-ROD ROTATION (UG)	1	Early Models
		700IB178	DECAL-ROD ROTATION	1	
2		700IA771	DECAL-BREAKER LIGHTS	1	
3	*	700IB381	DECAL - IGNITION	1	S/N 1549, 1611 -
4		700IA408	DECAL-LOADER (UND)	1	Early Models
4		700IB389	DECAL-LOADER (UND)	1	
5	*	7000B304	DECAL - WARNING DOMESTIC	1	
	*	700IB304	DECAL - WARNING INTERNATIONAL	1	
6		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
7		2326940	DECAL-NOTICE TO OWNERS	1	
8		2326142	DECAL-INDICATOR	2	
9		700IA477	DECAL-BATTERY SWITCH (UG)	1	
10		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	
11		700IA306	DECAL-STAKE DRIVER ROTAT. (UND)	1	
12		7000785	DECAL 8” VERMEER LOGO	2	
13		700IA426	DECAL-ROD VISES (UND)	1	
14		700IA679	DECAL-DRILL 3 POSITION	1	
15	*	7000A864	DECAL-WARNING DOMESTIC	1	
	*	700IA864	DECAL-WARNING INTERNATIONAL	1	
16		700IA488	DECAL-INSTRUMENTS (UG)	1	
17	*	700IA528	DECAL-WARNING	1	Early Models
	*	7000A528	DECAL-WARNING	1	Early Models
	*	7000B812	DECAL - WARNING DOMESTIC	1	
	*	700IB812	DECAL - WARNING INTERNATIONAL	1	
18		700IA696	DECAL-HYD. STAKE/REMOTE	1	
19		700IA881	DECAL-WORK LIGHT	1	
20		700IA967	DECAL-HYDRAULIC PRESET	1	
21		700IA193	DECAL-ETHER STARTING (UND)	1	
22		7000B166	DECAL-THRUST	1	
23		700IA966	DECAL-STAKEDOWN LEFT/RIGHT	1	
24	*	7000B811	DECAL - DANGER - RLE - DOMESTIC	1	
	*	700IB811	DECAL - DANGER - RLE - INTERNATIONAL		
25		700IB379	DECAL-CONTROL PANEL	1	S/N 1549, 1611 -
26	*	700IB914	DECAL - AUTO GREASER	1	

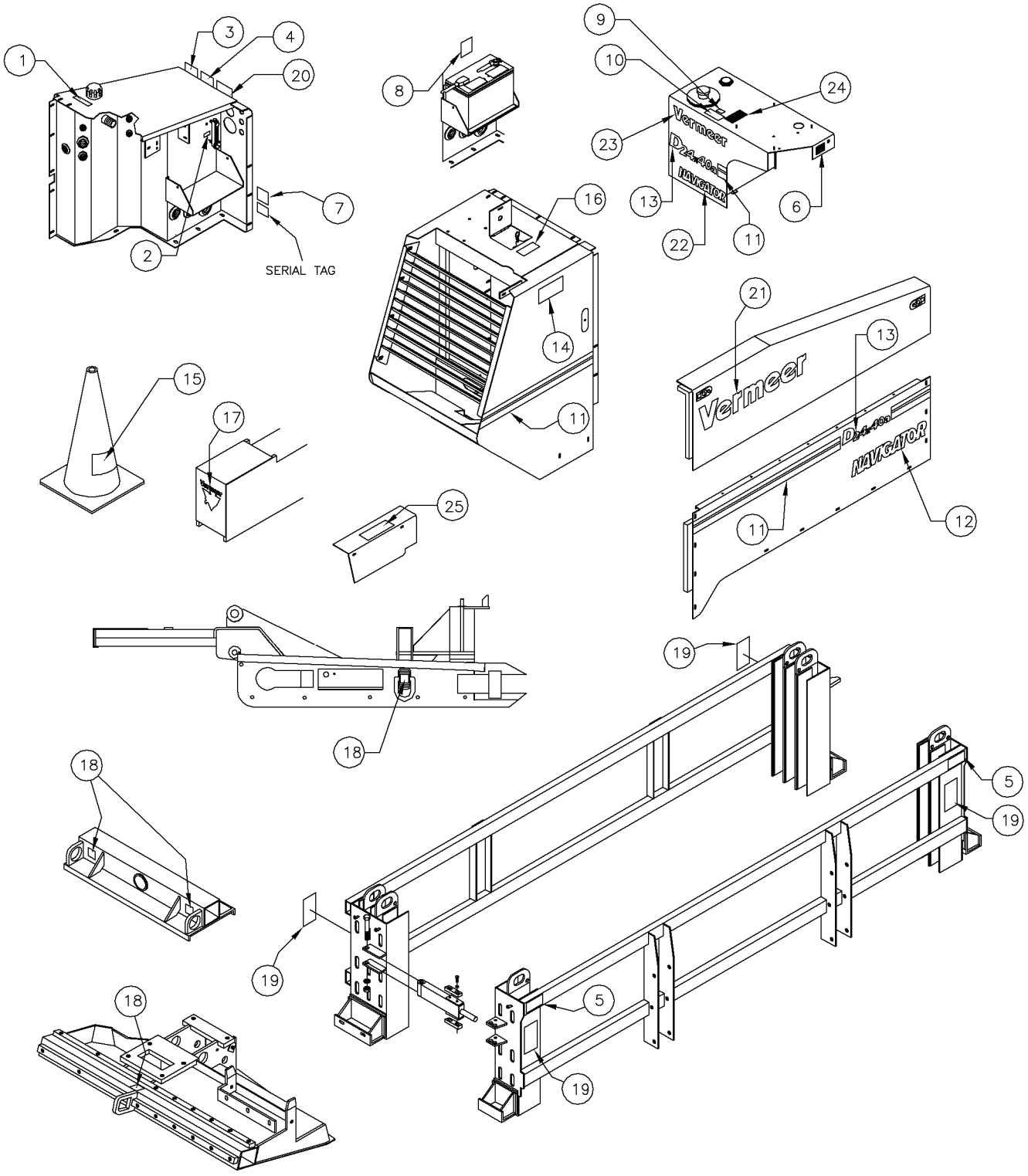
Decal Location Assy Fig 1-3r03



Decal Location Assy Fig 1-3r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		700IA441	DECAL-ROD ROTATION (UG)	1	Early Models
	*	700IB178	DECAL-ROD ROTATION	1	
2		700IA771	DECAL-BREAKER LIGHTS	1	
3		700IA409	DECAL-IGNITION (UND)	1	S/N 101-1548, 1550-1610
4		700IA408	DECAL-LOADER (UND)	1	Early Models
4	*	700IB389	DECAL-LOADER (UND)	1	
5		700IA474	DECAL-STRIKE ALERT (UG)	1	S/N 101-1548, 1550-1610
6		700IA472	DECAL-CTRL. TRACK & RACK (UG)	1	
7		2326940	DECAL-NOTICE TO OWNERS	1	
8		2326142	DECAL-INDICATOR	2	
9		700IA477	DECAL-BATTERY SWITCH (UG)	1	
10		700IA305	DECAL-STAKE DRIVE THRUST (UND)	1	
11		700IA306	DECAL-STAKE DRIVER ROTAT. (UND)	1	
12		7000785	DECAL 8” VERMEER LOGO	2	
13		700IA426	DECAL-ROD VISES (UND)	1	
14		700IA679	DECAL-DRILL 3 POSITION	1	
15		700IB184	DECAL-CONTROL PANEL	1	S/N 101-1548, 1550-1610
16		700IA488	DECAL-INSTRUMENTS (UG)	1	
17		700IA528	DECAL-WARNING	1	
		7000A528	DECAL-WARNING	1	
18		700IA696	DECAL-HYD. STAKE/REMOTE	1	
19		700IA881	DECAL-WORK LIGHT	1	
20		700IA967	DECAL-HYDRAULIC PRESET	1	
21		700IA193	DECAL-ETHER STARTING (UND)	1	
22		7000B166	DECAL-THRUST	1	
23		700IA966	DECAL-STAKEDOWN LEFT/RIGHT	1	
24	*	700IB381	DECAL-IGNITION	1	S/N 1549, 1611 -
25	*	700IB379	DECAL-CONTROL PANEL	1	S/N 1549, 1611 -

Decal Location Assy Fig 1-4r06

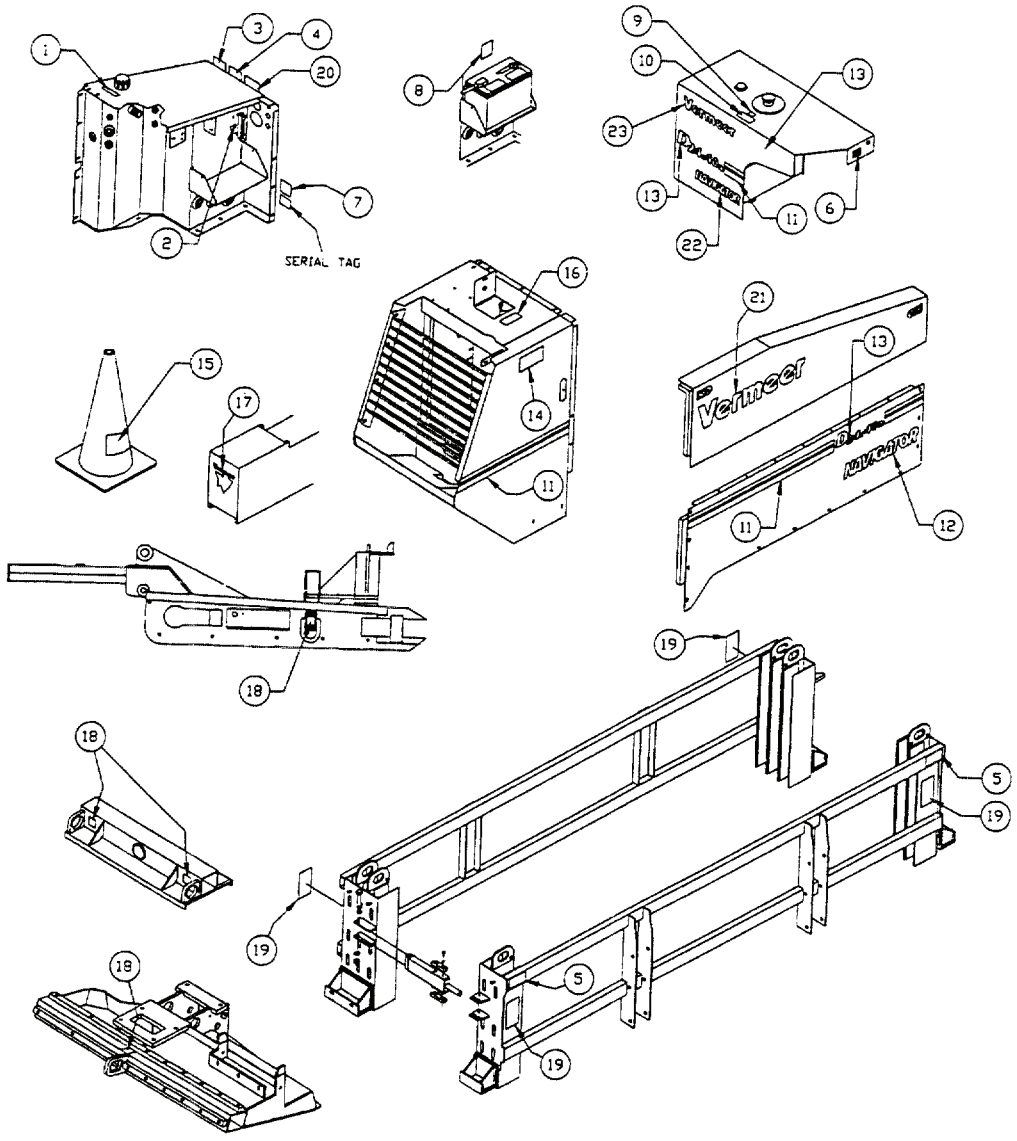


Decal Location Assy Fig 1-4r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		70000394	DECAL-VERMEER HY POWER	1	
2		2326756	DECAL-HYDRAULIC OIL	1	
		2326I756	DECAL-HYDRAULIC FLUID	1	
3		7000A393	DECAL - DANGER	1	
		700IA393	DECAL - DANGER	1	
4		7000A394	DECAL - WARNING	1	
		700IA394	DECAL - WARNING	1	
5		70000563	DECAL-WARNING (UND)	2	
		7000I563	DECAL-WARNING (UND)	2	
6		700IA639	DECAL	1	
7		7000B119	DECAL - PATENT INDUSTRIAL	1	
8		70000044	DECAL-WARNING(AT/UND)	1	
		7000I044	DECAL-WARNING	1	
9		70000098	DECAL-DIESEL (AT/UND)	1	
		7000I098	DECAL-DIESEL FUEL	1	
10		2326324	DECAL-WARNING/REFUEL	1	
		2326I324	DECAL-WARNING	1	
11		70000775	DECAL 3”VERMEER STRIPE	A/R	P/N Qty Of 1 = 1 Foot, 9 Feet 6 Inches Required
12		70000614	DECAL-MODEL NAVIGATOR (BIG)	1	
13		7000A778	DECAL-MODEL (D24X40A)	2	
14		7000A576	DECAL-DANGER	1	
		700IA576	DECAL-DANGER	1	
15		70000530	DECAL-DANGER	4	
		7000I530	DECAL-WARNING (NAVIGATORS)	4	
16		2326315	DECAL-WARNING	1	
		2326I315	DECAL-WARNING	1	
17		70000784	DECAL 6”VERMEER LOGO	1	
18		7000I834	DECAL - TIE DOWN POINT	5	
19		7000A627	DECAL-DANGER	4	
		700IA627	DECAL-DANGER	4	
20		7000A900	DECAL-D24X40A LUBE CHART	1	
21		7000B059	DECAL - VERMEER 6”	1	
22		7000A010	DECAL-MODEL NAVIGATOR(MEDIUM)	1	
23		2326619	DECAL- VERMEER 3 X 15	1	
24	*	7000B304	DECAL - WARNING	1	
	*	700IB304	DECAL - WARNING	1	
25	*	700IB500	DECAL - ROD POSITIONER	1	
26	*	700IB809	DECAL - REMOTE LOCKOUT	1	

Decal Location Assy Fig 1-4r05

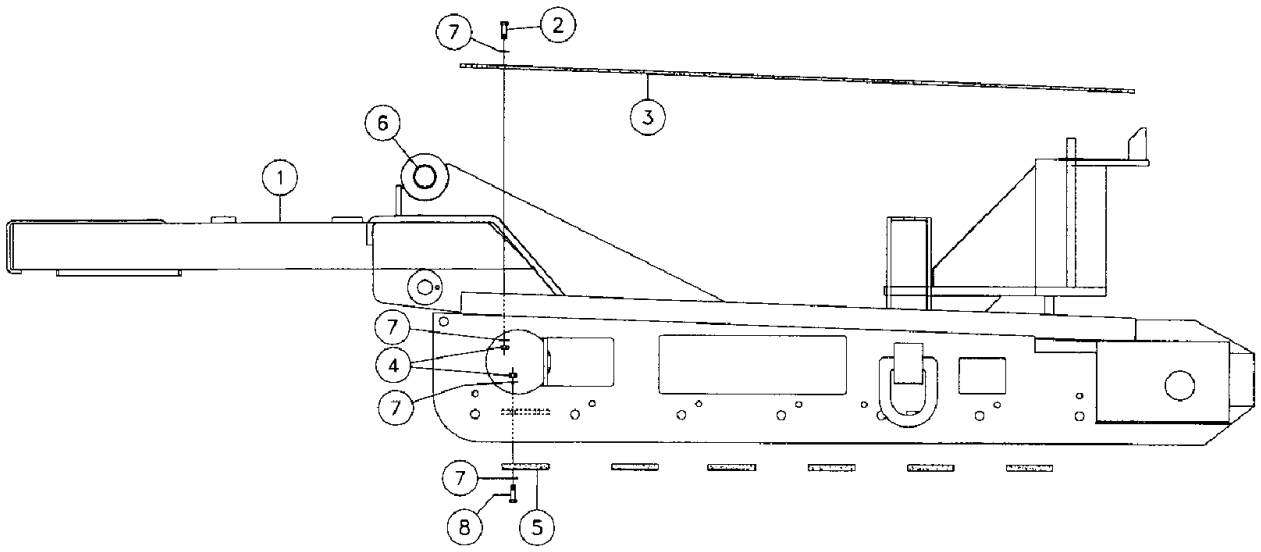
Revised November due to update in decal assy. Changed part marked with *.



Decal Location Assy Fig 1-4r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List.
1		70000394	DECAL-VERMEER HY POWER	1	
2		2326756	DECAL-HYDRAULIC OIL	1	
		2326I756	DECAL-HYDRAULIC FLUID	1	
3		7000A393	DECAL - DANGER	1	
	*	700IA393	DECAL - DANGER	1	
4		7000A394	DECAL - WARNING	1	
		700IA394	DECAL - WARNING	1	
5		70000563	DECAL-WARNING (UND)	2	
		7000I563	DECAL-WARNING (UND)	2	
6		700IA639	DECAL	1	
7		7000B119	DECAL - PATENT INDUSTRIAL	1	
8		70000044	DECAL-WARNING(AT/UND)	1	
		7000I044	DECAL-WARNING	1	
9		70000098	DECAL-DIESEL (AT/UND)	1	
		7000I098	DECAL-DIESEL FUEL	1	
10		2326324	DECAL-WARNING/REFUEL	1	
		2326I324	DECAL-WARNING	1	
11		70000775	DECAL 3”VERMEER STRIPE	A/R	P/N Qty Of 1 = 1 Foot, 9 Feet 6 Inches Required
12		70000614	DECAL-MODEL NAVIGATOR (BIG)	1	
13		7000A778	DECAL-MODEL (D24X40A)	2	
14		7000A576	DECAL-DANGER	1	
		700IA576	DECAL-DANGER	1	
15		70000530	DECAL-DANGER	4	
		7000I530	DECAL-WARNING (NAVIGATORS)	4	
16		2326315	DECAL-WARNING	1	
		2326I315	DECAL-WARNING	1	
17		70000784	DECAL 6”VERMEER LOGO	1	
18	*	7000I834	DECAL - TIE DOWN POINT	5	
19		7000A627	DECAL-DANGER	4	
		700IA627	DECAL-DANGER	4	
20		7000A900	DECAL-D24X40A LUBE CHART	1	
21		7000B059	DECAL - VERMEER 6”	1	
22		7000A010	DECAL-MODEL NAVIGATOR(MEDIUM)	1	
23		2326619	DECAL- VERMEER 3 X 15	1	

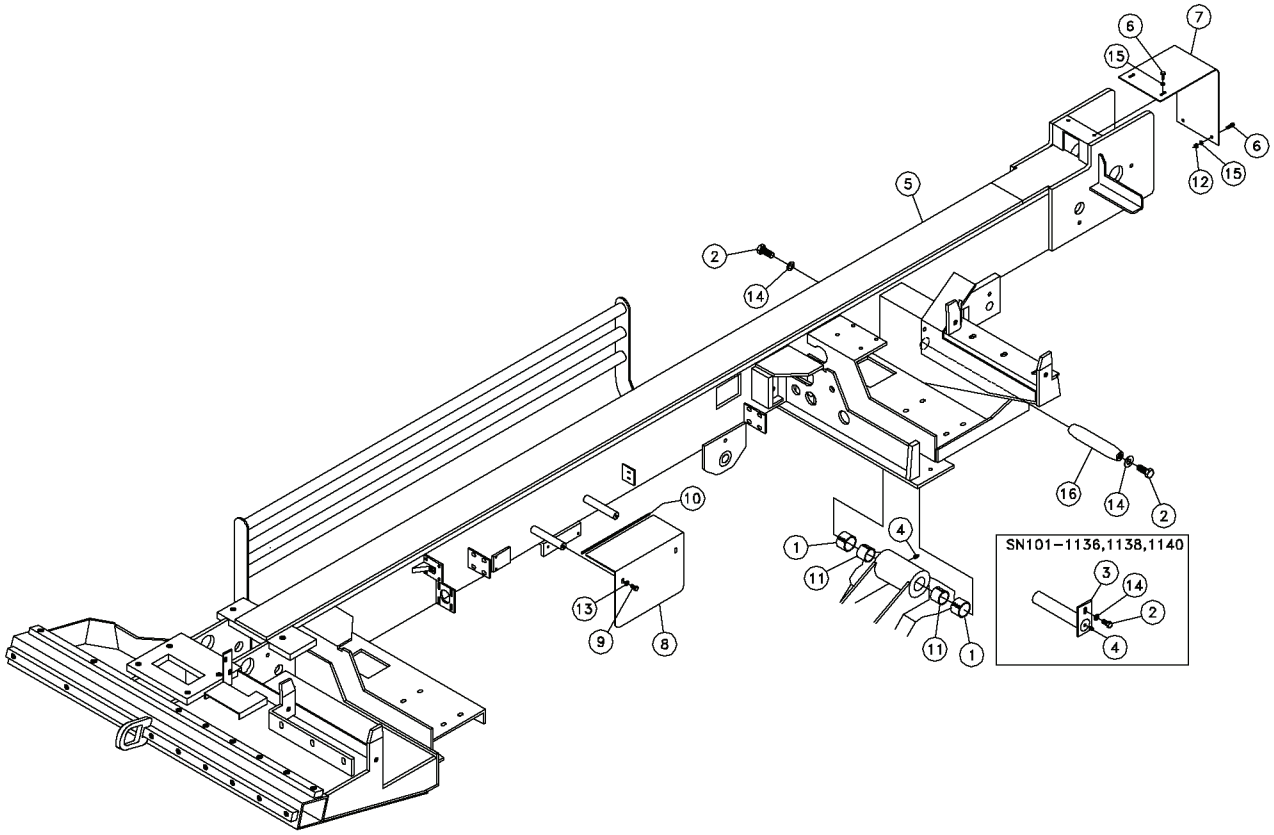
Main Frame Assy Fig 1-5



Main Frame Assy Fig 1-5

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		235352003	FRAME-ASSEMBLY-MAIN	1	Inc Two Of Ref No 6
2		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	10	
3		235960001	PLATE-TOP WEAR STRIP	2	
4		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	34	
5		235959001	PLATE-BOTTOM WEAR STRIP	12	
6		1835033	BSHG.-STL.-2 X 1 3/4 X 1 1/2	2	
		1835035	BSHG.-STL.-2 X 1 3/4 X 2	2	
7		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	34	
8		235723001	SCREW - HCS -.38 - 16 X 1.50 - GR8 - YZ	24	

Rack Frame Assy Fig 1-6r05

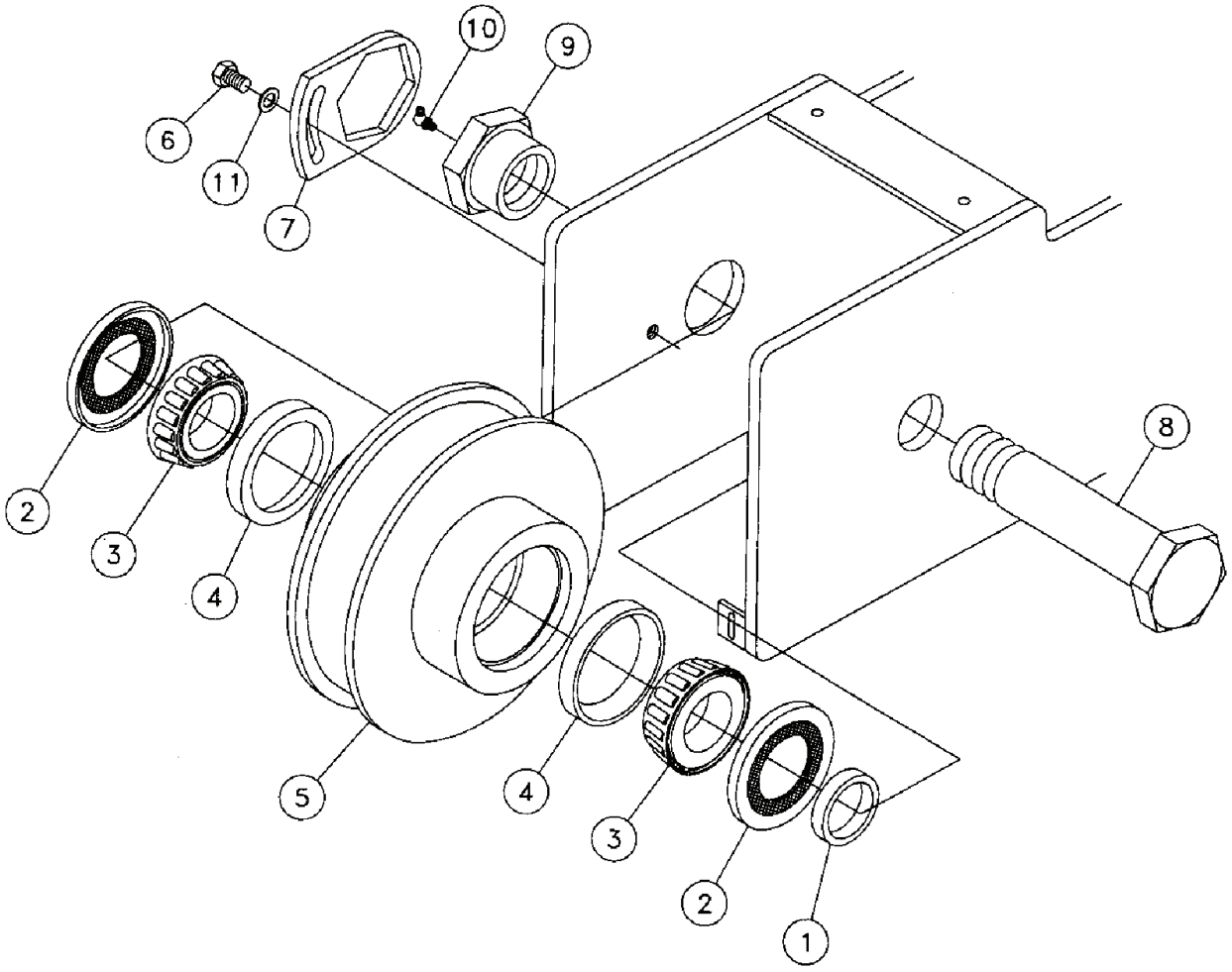


Rack Frame Assy Fig 1-6r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		282797001	BUSHING - SPRING 2 X 1 3/4 X 2	1	
2		238217001	BOLT-3/4-10X1 1/2 GR8 HEX ZYC	2	
3		225150001	PIN-PIVOT	1	S/N 101-1136, 1138, 1140
4		586001	ZERK-1/8” ST NPT GREASE	1	
5		240958001	RACK - DOUBLE COMB	1	
6		238209001	BOLT-5/16-18X1 GR8 HEX ZINC YC	4	
7		249025001	PLATE-BACK SHIELD	1	
8		235759001	PLATE-SHIELD	1	
9		235726001	BOLT-3/8-16X3/4 GR8 HEX ZNCPLT	2	
10		212522001	TRIM-1/4 EDGE		
11		282796001	BUSHING - 1 3/4 TAPERED	2	
12		235741001	NUT - HEX - .31 - 18 - GR8 -YZ	2	
13		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	2	
14		235717001	WASHER-3/4 FLAT HARDENED YELLOW ZINC	2	S/N 101-1136, 1138, 1140
15		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	4	
16		282795001	Pin - 1 3/4 x 9.26 TAPERED	1	S/N 1137, 1139, 1141 -

Roller Assy - Upper Fig 1-7r01

Revised February 1999 due to update in parts list. Changed parts marked with *.

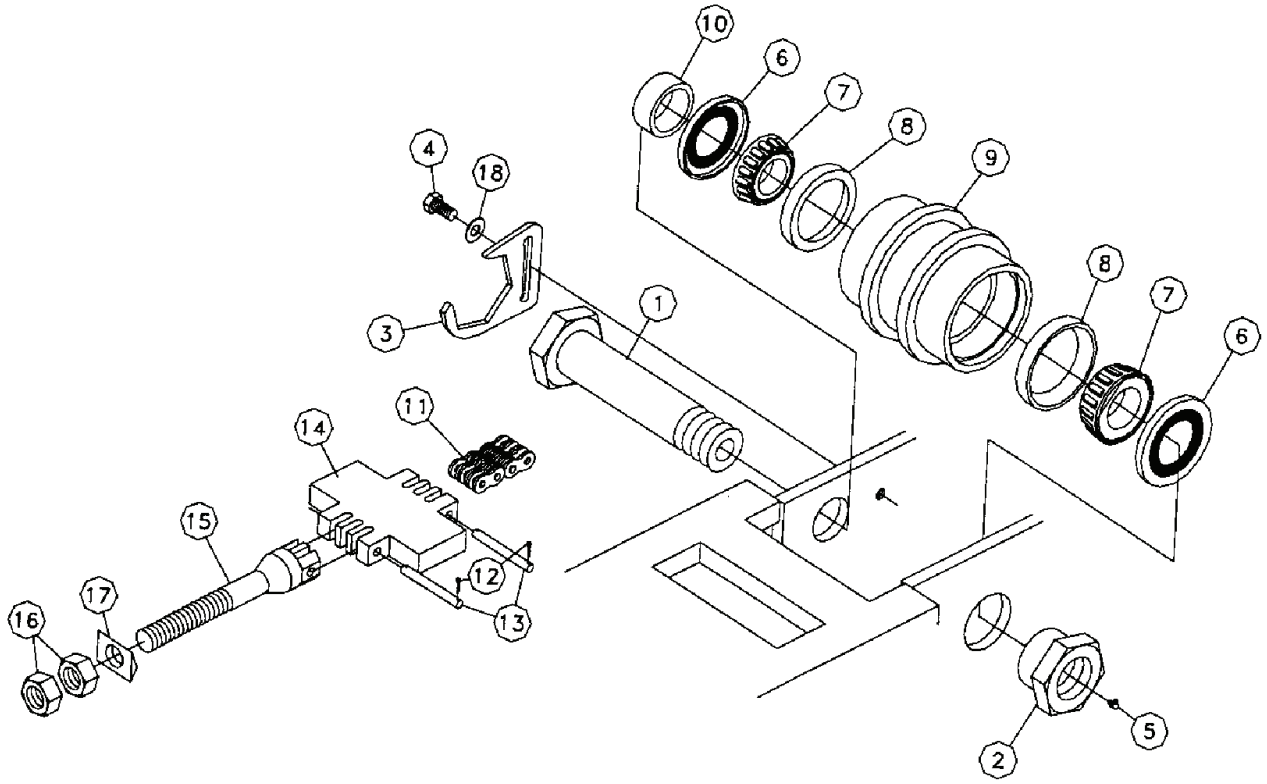


Roller Assy - Upper Fig 1-7r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List
1		213595001	TUBE-SPACER	1	
2		85752001	SEAL	2	
3		1716085	CONE-BEARING	2	
4		1715063	CUP-BEARING 45220	2	
5		230823001	ROLLER ASSY-UPPER	1	Inc Ref No 4
6		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	1	
7		235829001	PLATE-LOCK	1	
8	*	213598003	PIN ASSY-ROLLER	1	
9		213594001	HEX-NUT BEARING	1	
10	*	590001	ZERK-1/8” NPT 90 DEG GREASE	1	Inc Ref No 10
11		485025	WASHER-1/2 FLAT-HARDENED-ZINC		

Roller Assy - Lower Fig 1-8r02

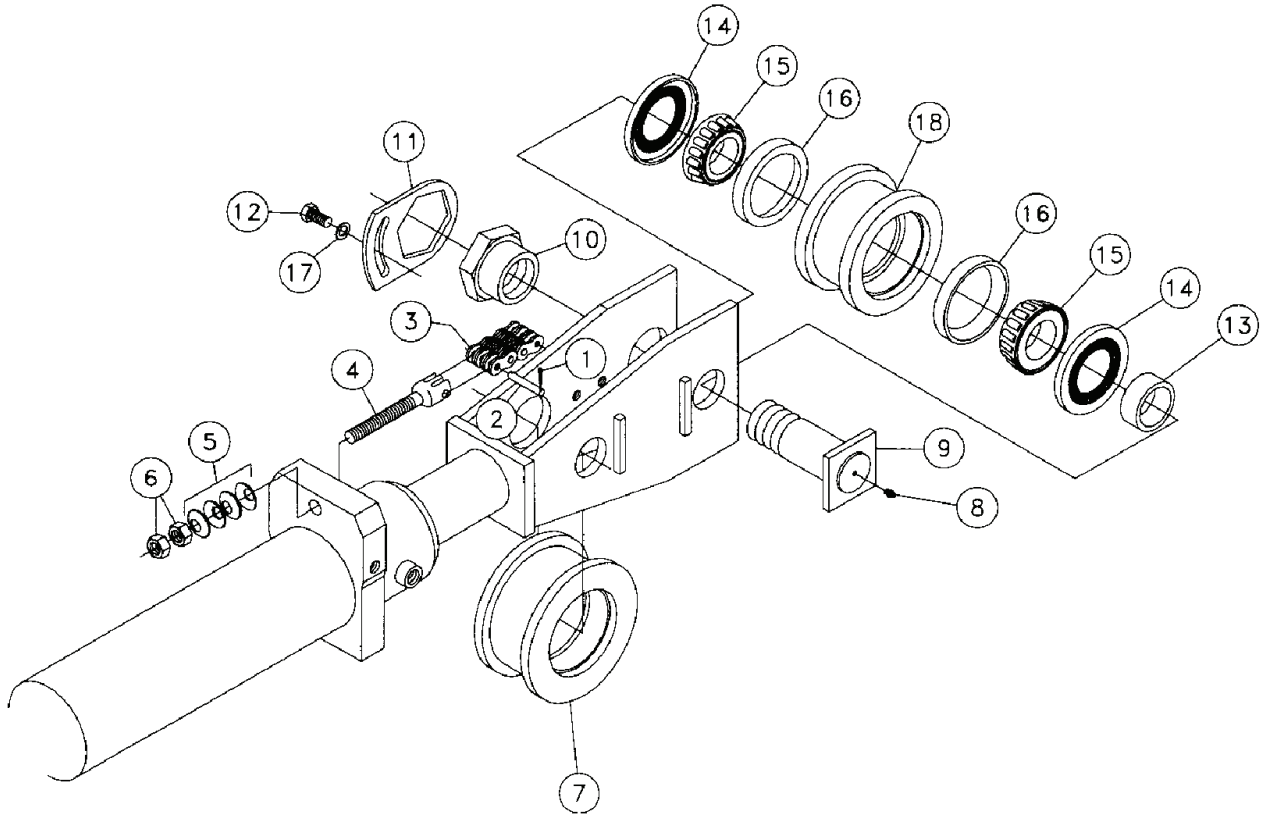
Revised February 1999 due to update in parts list. Changed part marked with *.



Roller Assy - Lower Fig 1-8r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
1		213598003	PIN ASSY-ROLLER	1	Inc Ref No 5
2		213594001	HEX-NUT BEARING	1	
3		230925001	PLATE-LOCK	1	
4		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	1	
5		590001	ZERK-1/8” NPT 90 DEG GREASE	1	
6		85752001	SEAL	2	
7		1716085	CONE-BEARING	2	
8		1715063	CUP-BEARING 45220	2	
9	*	282830001	ROLLER ASSEMBLY - LOWER	1	Inc Two Of Ref No’s 6-8
10		213595001	TUBE-SPACER	1	
11		245009001	CHAIN-LEAF BL866 165 PITCHES	1	
		98422001	LINK-BL866 CONNECTOR		
12		510005	COTTER PIN-3/32” X 3/4”	4	
13		89349001	PIN-ANCHOR BL866 3/8 D1AX3.44	2	
14		230944001	PLATE-ANCHOR	1	
15		240818001	BOLT CHAIN TIGHTENER	1	
16		75391001	NUT-1-UNF GR.8 HEX	2	
17		240819001	PLATE-ROCKER ADJ. WASHER	1	
18		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	

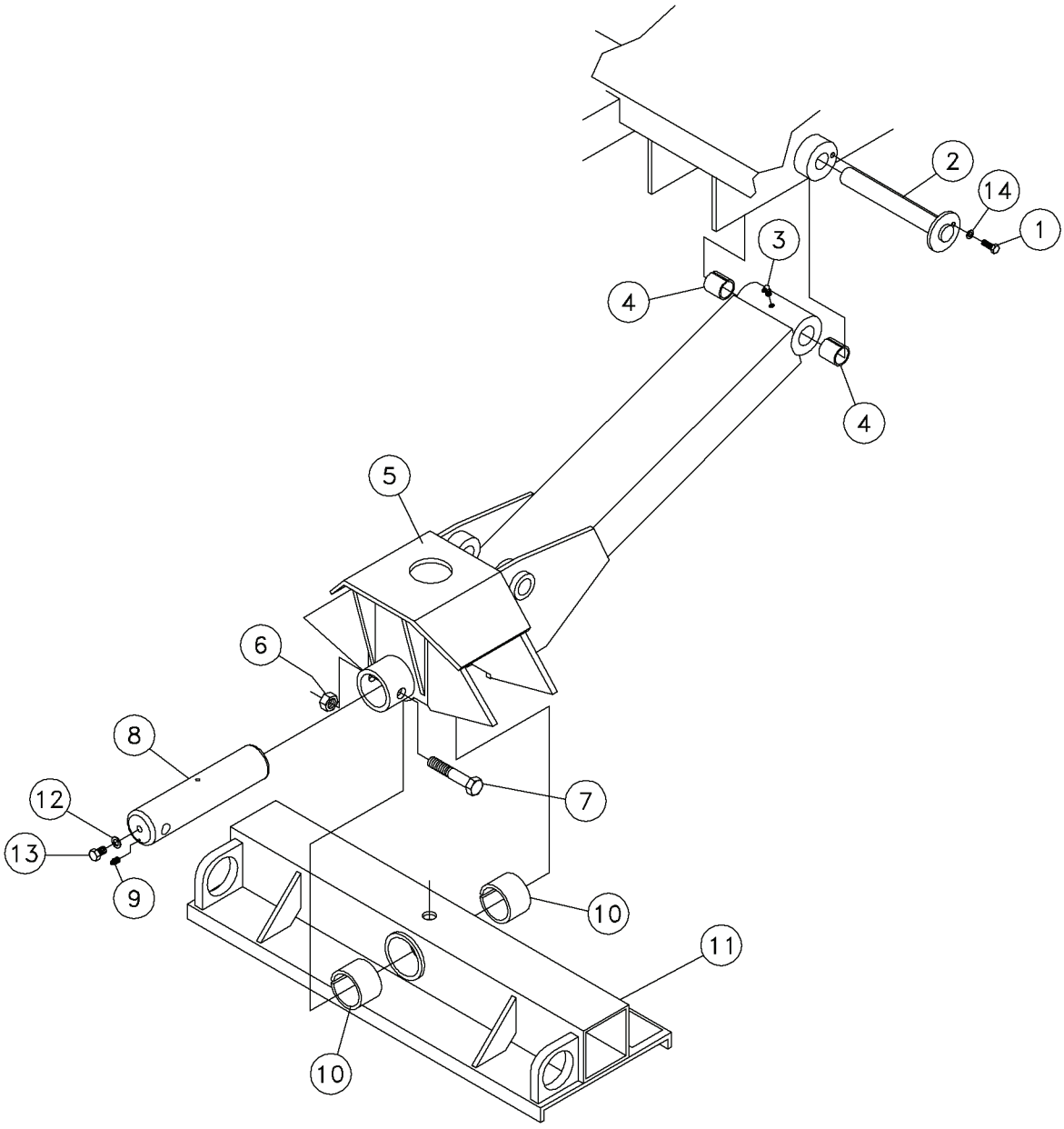
Roller Assy - Thrust Cylinder Fig 1-9r01



Roller Assy - Thrust Cylinder Fig 1-9r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
1		510005	COTTER PIN-3/32" X 3/4"	2	
2		89371001	PIN-BL866 ANCHOR 3/8"DIAX2.38	1	
3		98422001	LINK-BL866 CONNECTOR		
		86104257	CHAIN-LEAF BL866 257 PITCHES	1	
4		215584001	BOLT-866 PULL CHAIN	1	
5		217033001	WASHER-BELLEVILLE 1.5 ODX3/4ID	28	
6		94974001	NUT-3/4-16NF GRADE 8 HEX	2	
7	*	282829001	ROLLER ASSEMBLY - RAM	1	Inc Two Of Ref No's 14-16, Replaces 213685001
8		586001	ZERK-1/8" ST NPT GREASE	2	
9		211142003	PIN ASSY-ROLLER	2	Inc Ref No 8
10		213594001	HEX-NUT BEARING	2	
11		235829001	PLATE-LOCK	2	
12		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	2	
13		213595001	TUBE-SPACER	4	
14		85752001	SEAL	4	
15		1716085	CONE-BEARING	4	
16		1715063	CUP-BEARING 45220	2	
17	*	485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	
18		282831001	ROLLER ASSEMBLY - SMALL		Inc Two Of Ref No's 14-16, Replaces 230962001

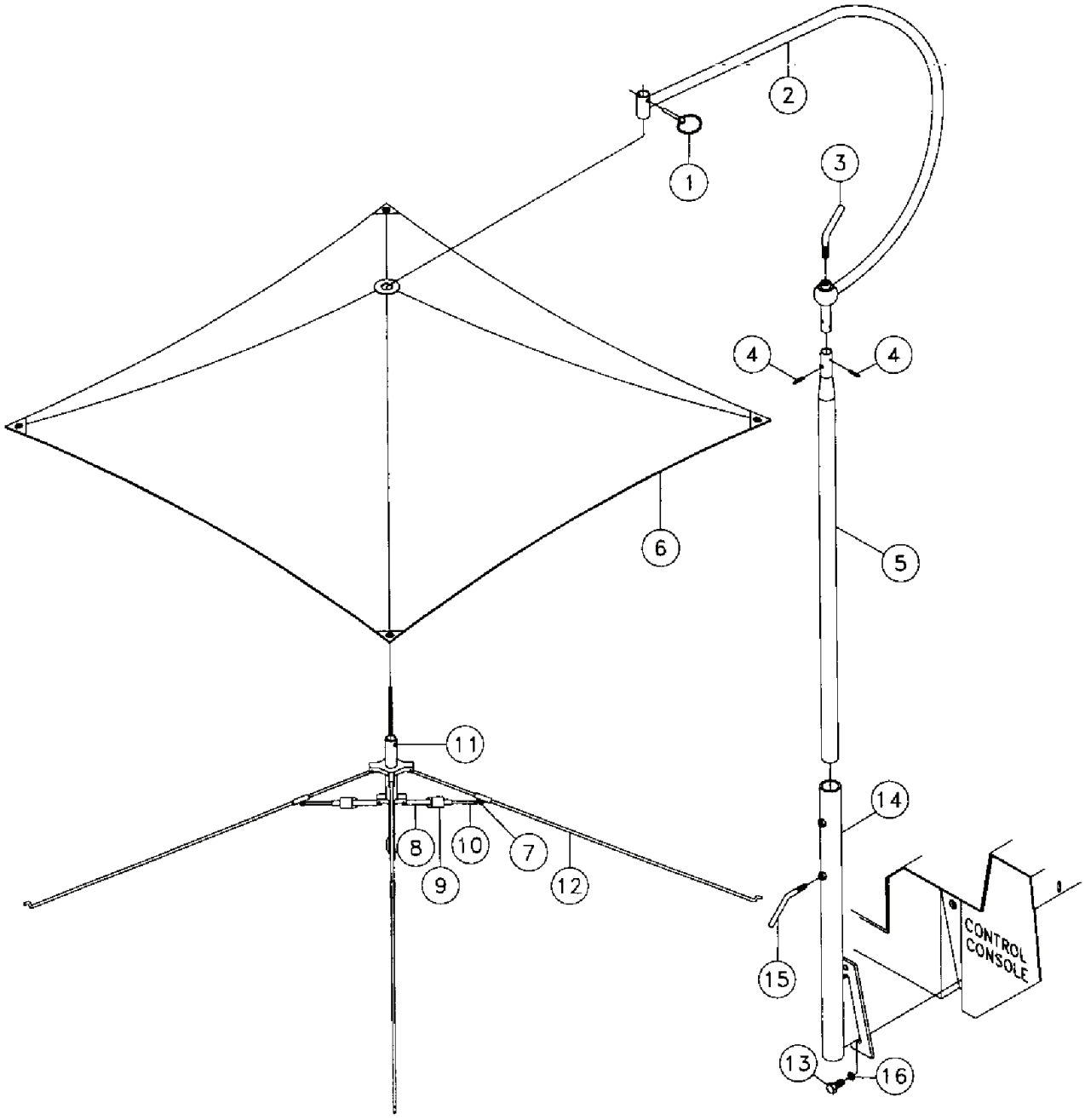
Outrigger Arm Assy Fig 1-10r01



Outrigger Arm Assy Fig 1-10r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List.
1		235727001	BOLT-3/8-16 X 1 GR8 HEX ZINC PLT	1	
2		230858001	PIN-OUTRIGGER	1	
3		590001	ZERK-1/8” NPT 90 DEG GREASE	1	
4		1835027	BSHG.-STL.-1 1/2 X 1 1/4 X 1 1/2	2	
5		235828003	ARM ASSY-OUTRIGGER	1	Inc Ref No’s 3 & 4
6		235739001	NUT-3/4-10 GR8 ZINC PLTD	1	
7		235738001	BOLT-3/4-10 X 4 1/2 GR8 ZNC PLT	1	
8		235849001	PIN-PIVOT	1	
9		586001	ZERK-1/8” ST NPT GREASE	1	
10	*	1835099	BSHG.-STL.-3 X 2 1/2 X 2	2	Replaces 1835039
11		235833003	PAD ASSY-OUTRIGGER	1	Inc Ref No’s 9 & 10
12		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	
13		235729001	BOLT-1/2-13 X 1 GR8 HEX ZINC PLT	1	
14		235713001	WASHER-3/8 SAE HARD ZINC PLTD	1	

Umbrella Assy Fig 1-11

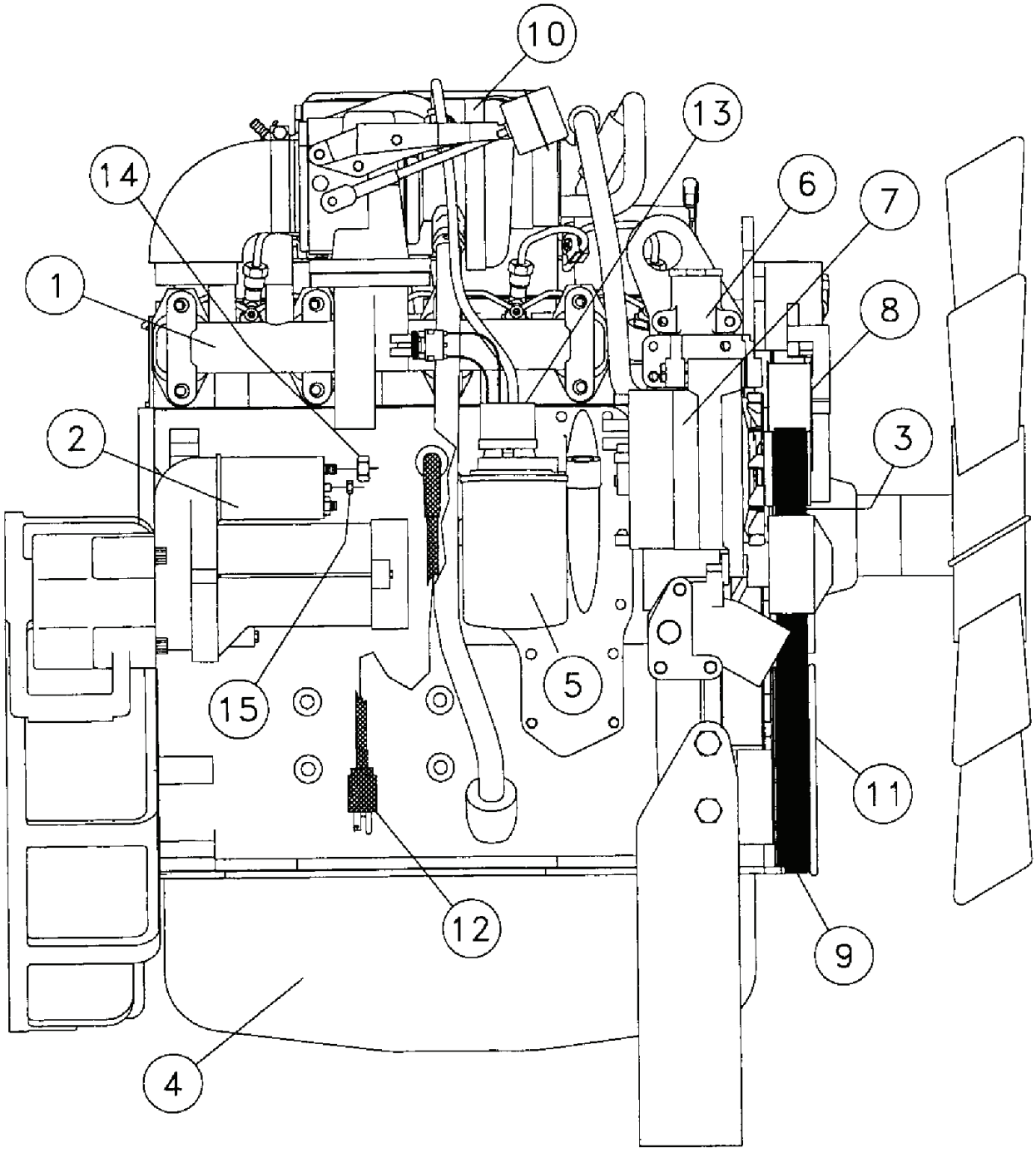


Umbrella Assy Fig 1-11

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		1797003	PIN-QUICK ATTACHMENT 1/4”	1	
2		238181003	CURVED SHAFT	1	
3		238181005	LOCKING HANDLE	1	
4		1978011	PIN-ROLL 3/16 X 1	2	
5		238181007	SUPPORT SHAFT-UMBRELLA	1	
6		238181009	CANVAS COVER-UMBRELLA	1	
7		238181011	RIVET-PUSH PIN	12	
8		238181013	TUBE-PUSH ROD	4	
9		238181015	CLIP-PUSH ROD LOCKING SPRING	4	
10		238181017	PUSH ROD	4	
11		238181019	CENTER TUBE W/SPIDERS	1	
12		238181021	BOW W/CLEVIS	4	
13		235729001	BOLT-1/2-13X1 GR8 HEX ZINC PLT	2	
14		236499001	MOUNT-UMBRELLA	1	
15		240038001	BOLT-TIGHTENING 3/8”	2	
16		485025	WASHER-1/2 FLAT-HARDENED-ZINC	2	
		238181001	UMBRELLA-ASSY		Inc Ref No’s 1 - 12

Engine Components Fig 2-1r01

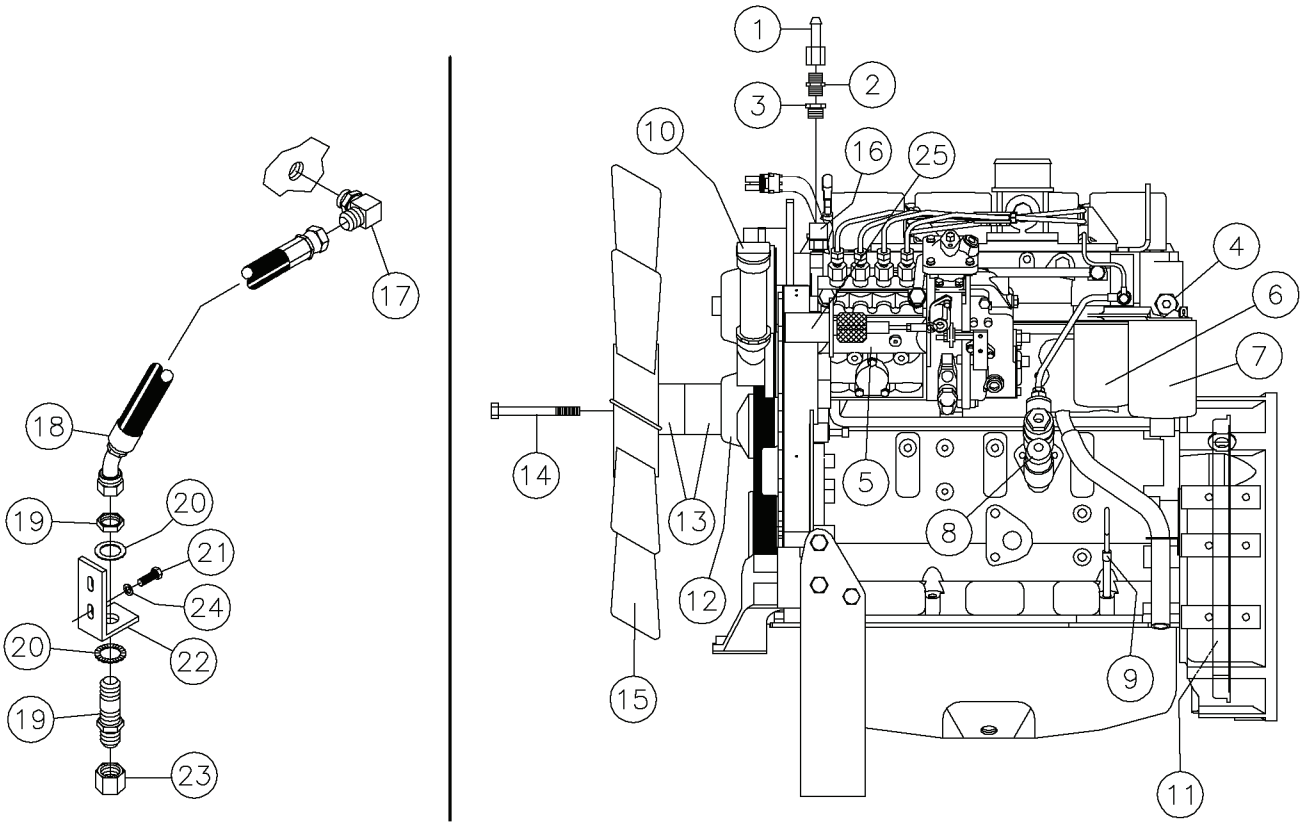
Revised February 1999 due to update in parts list. Changed parts marked with *.



Engine Components Fig 2-1r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List.
1		220162003	MANIFOLD-EXHAUST	1	W by C
		220681027	BOLT	8	W by C
		234218003	GASKET-EXHAUST MANIFOLD	4	W by C
2		103000001	STARTER	1	W by C
		220681025	STARTER MOUNTING BOLT	2	W by C
3		220162009	WATER PUMP	1	W by C
		220681031	SEAL-RECTANGULAR RING	1	W by C
4		224558009	OIL PUMP	1	W by C
5		104071001	FILTER-OIL	1	W by C
6		104073001	THERMOSTAT	1	W by C
		104074001	GASKET-THERMOSTAT	1	W by C
7		220171001	ALTERNATOR-MODIFIED 42 AMP	1	
		5902001	ALTERNATOR FAN	1	
		220162039	SHEAVE-ALTERNATOR	1	W by C
		220681019	ALTERNATOR BRACKET-LOWER	1	W by C
		220681017	ALTERNATOR BRACKET-UPPER	1	W by C
		220681021	ALTERNATOR MOUNTING BOLT-UPPER	1	W by C
		220681023	ALTERNATOR MOUNTING BOLT-LOWER	2	W by C
8		234218005	TENSIONER-BELT	1	W by C
9	*	240826001	BELT-MICRO V 55.0”	1	W by C
10		234218009	TURBO	1	W by C
		234218011	GASKET-TURBO	1	W by C
11		107606001	PULLEY-CRANKSHAFT	1	W by C
		103011001	BOLT-CRANKSHAFT PULLEY	4	W by C
12		104067001	HEATER-ENGINE	1	W by C
		104068001	CABLE-ENGINE HEATER	1	W by C
13		98678001	SWITCH-PRESSURE SIN POLE 9 PSI	1	
14	*	61656001	NUT-10M X 1.50 PITCH 934 DIN	1	
15	*	61655001	NUT-5MX.80 PITCH 934 DIN	1	
		Note:	W by C		Items Warranted By Authorized Cummins Dealer

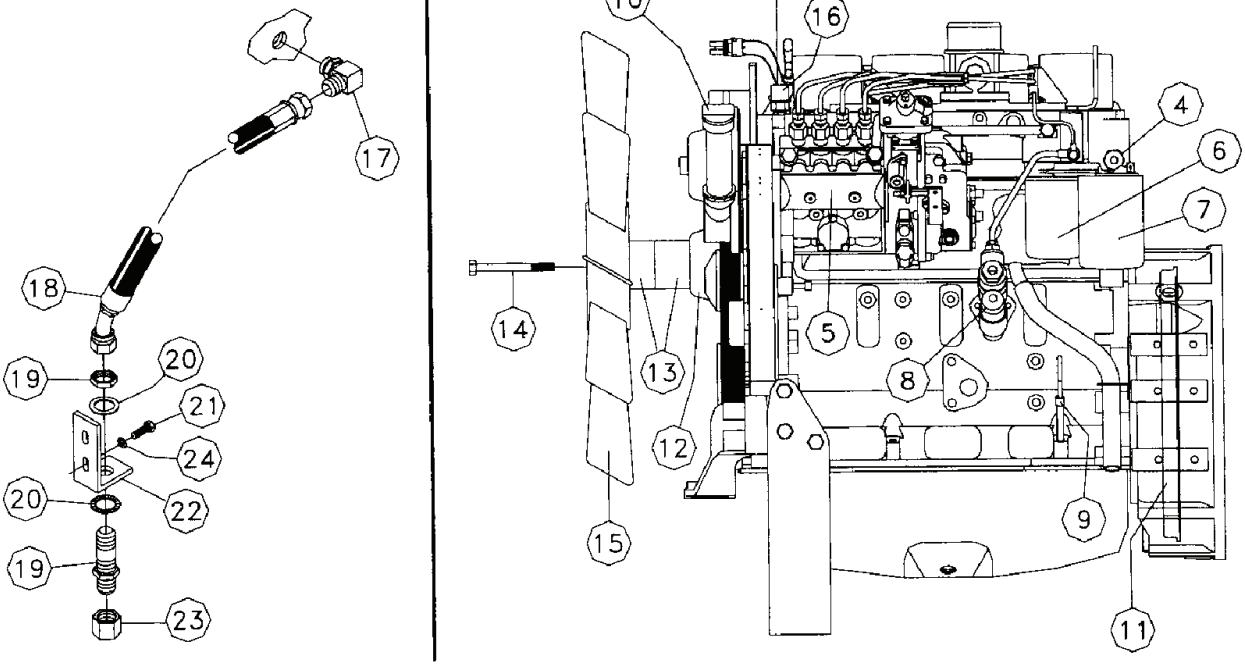
Engine Components Fig 2-2r01



Engine Components Fig 2-2r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		103007001	VALVE-CHECK	1	W by C
2		103006001	COUPLING	1	W by C
3		103005001	BUSHING	1	W by C
4		11981001	SENDER-8992016 WATER TEMP	1	W by C
5		234218013	PUMP-FUEL INJECTION	1	W by C
		234218015	GASKET-INJECTION PUMP	1	W by C
		234218017	INJECTOR-FUEL	4	W by C
6		220162025	FILTER-SECONDARY FUEL	1	W by C
7		220162023	FILTER-PRIMARY FUEL W/SEPARATR	1	W by C
8		234218019	PUMP-FUEL LIFT	1	W by C
		220681013	FUEL PUMP GASKET	1	W by C
9		234218021	DIPSTICK	1	W by C
		234218023	DIPSTICK TUBE-MIDDLE	1	W by C
10		102996001	CAP-OIL FILL	1	W by C
11		104063001	FLYWHEEL	1	W by C
		103027001	BOLT-FLYWHEEL	8	W by C
12		234218025	PULLEY-FAN	1	W by C
13		234218027	FAN SPACER - 1 1/2	1	W by C
		234218029	FAN SPACER-2”	1	W by C
14		64111001	BOLT-M10X110 GR8.8	4	
15		224953001	FAN-26” 9 BLADE PUSHER	1	
16		227965001	SWITCH-TEMPERATURE (220F)	1	
17		100351001	ELBOW-10M JICX18-1.5MX90METRIC	1	
18		53842427	HOSE-5/8X21 10FS JIC 45 3000	1	
19		77734001	FITTING-10M JIC BULKHEAD STR.	1	
20		240756001	WASHER-SERRATED 1 3/8 OD X 7/8 ID	2	
21		238209001	BOLT-5/16-18X1 GR8 HEX ZINC YC	2	
22		244254001	PLATE-ENGINE DRAIN MOUNT OS	1	
23		78062001	FITTING-10F JIC CAP NUT	1	
24		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	
25	*	234218031	SOLENOID - FUEL PUMP	1	
		Note:	W by C		Items Warranted By Authorized Cummins

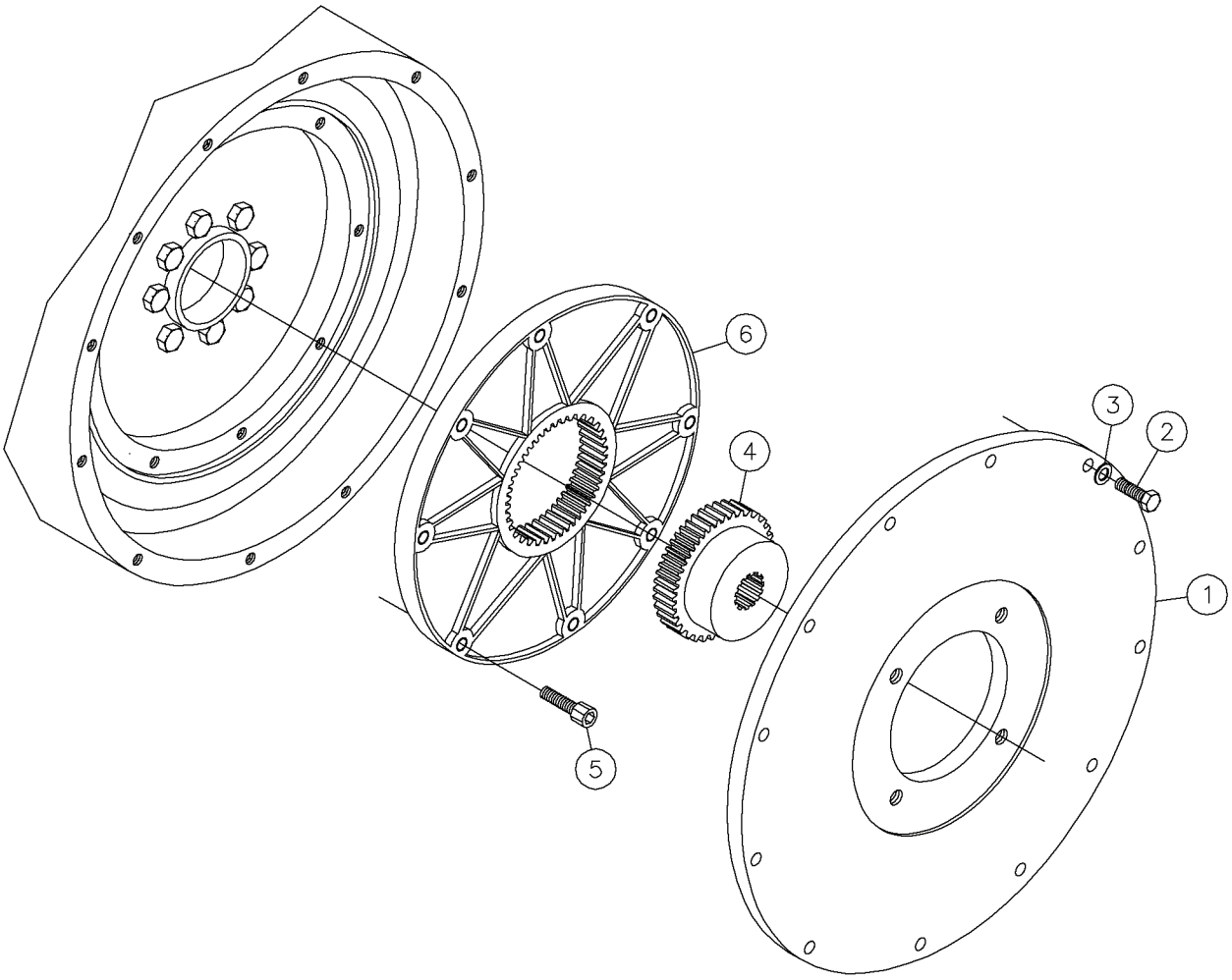
Engine Components Fig 2-2



Engine Components Fig 2-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		103007001	VALVE-CHECK	1	W by C
2		103006001	COUPLING	1	W by C
3		103005001	BUSHING	1	W by C
4		11981001	SENDER-8992016 WATER TEMP	1	W by C
5		234218013	PUMP-FUEL INJECTION	1	W by C
		234218015	GASKET-INJECTION PUMP	1	W by C
		234218017	INJECTOR-FUEL	4	W by C
6		220162025	FILTER-SECONDARY FUEL	1	W by C
7		220162023	FILTER-PRIMARY FUEL W/SEPARATR	1	W by C
8		234218019	PUMP-FUEL LIFT	1	W by C
		220681013	FUEL PUMP GASKET	1	W by C
9		234218021	DIPSTICK	1	W by C
		234218023	DIPSTICK TUBE-MIDDLE	1	W by C
10		102996001	CAP-OIL FILL	1	W by C
11		104063001	FLYWHEEL	1	W by C
		103027001	BOLT-FLYWHEEL	8	W by C
12		234218025	PULLEY-FAN	1	W by C
13		234218027	FAN SPACER - 1 1/2	1	W by C
		234218029	FAN SPACER-2”	1	W by C
14		64111001	BOLT-M10X110 GR8.8	4	
15		224953001	FAN-26” 9 BLADE PUSHER	1	
16		227965001	SWITCH-TEMPERATURE (220F)	1	
17		100351001	ELBOW-10M JICX18-1.5MX90METRIC	1	
18		53842427	HOSE-5/8X21 10FS JIC 45 3000	1	
19		77734001	FITTING-10M JIC BULKHEAD STR.	1	
20		240756001	WASHER-SERRATED 1 3/8 OD X 7/8 ID	2	
21		238209001	BOLT-5/16-18X1 GR8 HEX ZINC YC	2	
22		244254001	PLATE-ENGINE DRAIN MOUNT OS	1	
23		78062001	FITTING-10F JIC CAP NUT	1	
24		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	
		Note:	W by C		Items Warranted By Authorized Cummins

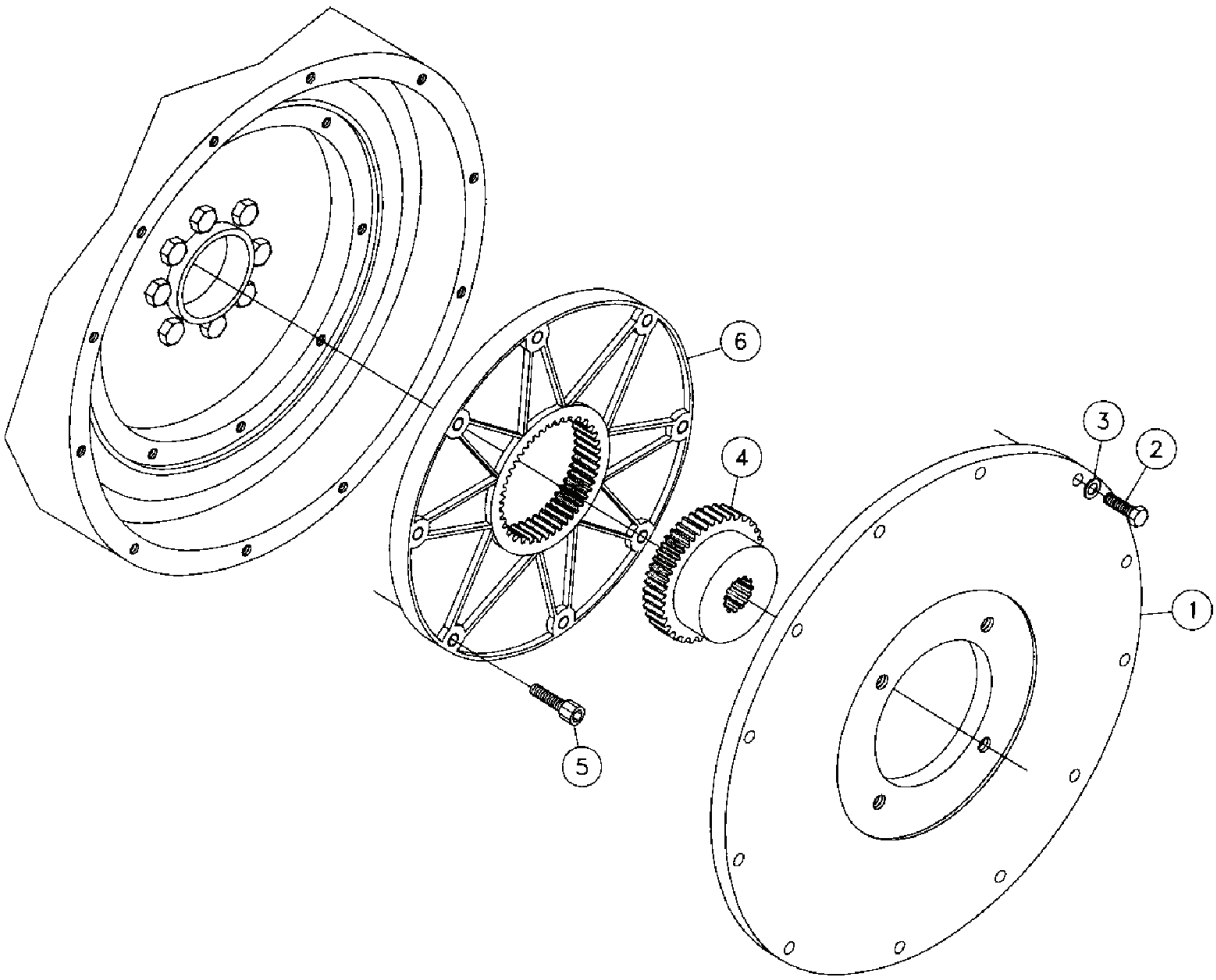
Pump Drive Assy Fig 2-3r01



Pump Drive Assy Fig 2-3r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		220021001	PLATE-PUMP MOUNT	1	
2		250518001	BOLT-10MM X 35 MM GR.8 Y/ZINC	12	
3		240061001	WASHER-10MM HARDENED FLAT ZNC	12	
4	*	278981001	HUB - 14T PUMP DRIVE	1	
5		4478014	CAPSCREW-3/8-16X1 1/2 SOCHD G8	8	
6		220075001	FLANGE-65 FLE-PA 10”FLYWHEEL	1	

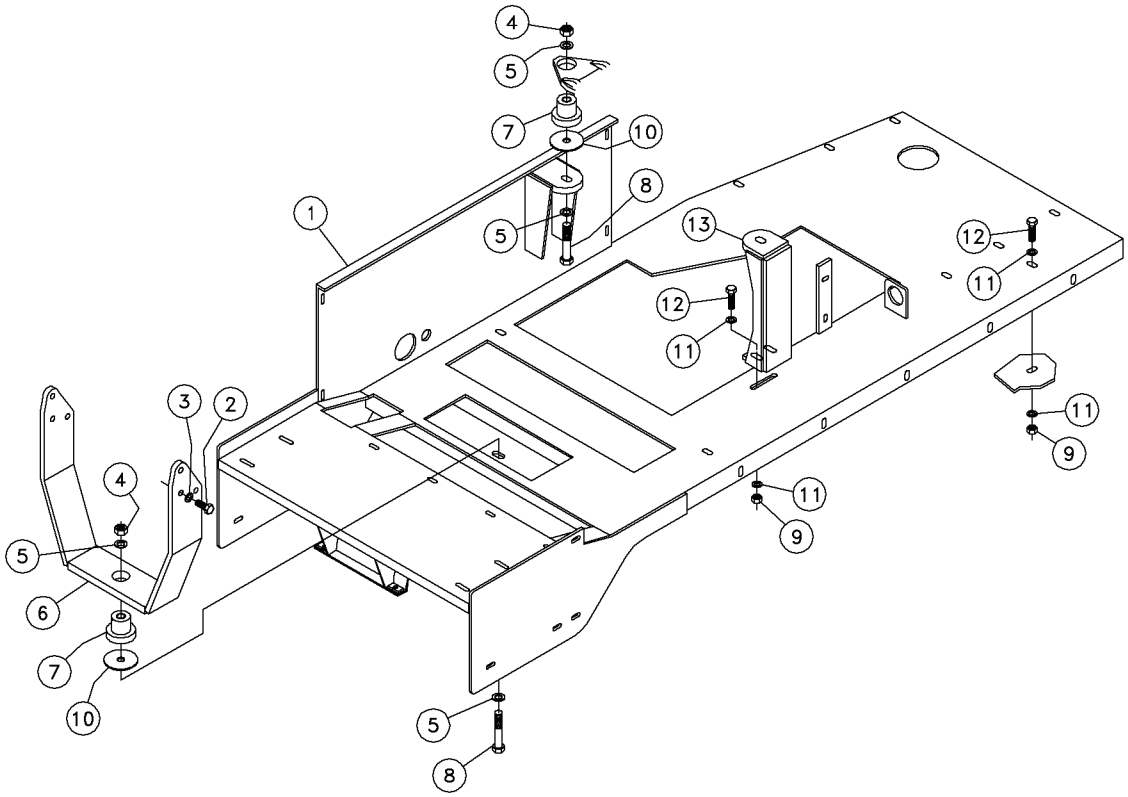
Pump Drive Assy Fig 2-3



Pump Drive Assy Fig 2-3

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		220021001	PLATE-PUMP MOUNT	1	
2		250518001	BOLT-10MM X 35 MM GR.8 Y/ZINC	12	
3		240061001	WASHER-10MM HARDENED FLAT ZNC	12	
4		220076001	HUB-M65 55MM LONG 14T “C” SPLINE	1	
5		4478014	CAPSCREW-3/8-16X1 1/2 SOCHD G8	8	
6		220075001	FLANGE-65 FLE-PA 10”FLYWHEEL	1	

Engine Mount Assy Fig 2-4r01

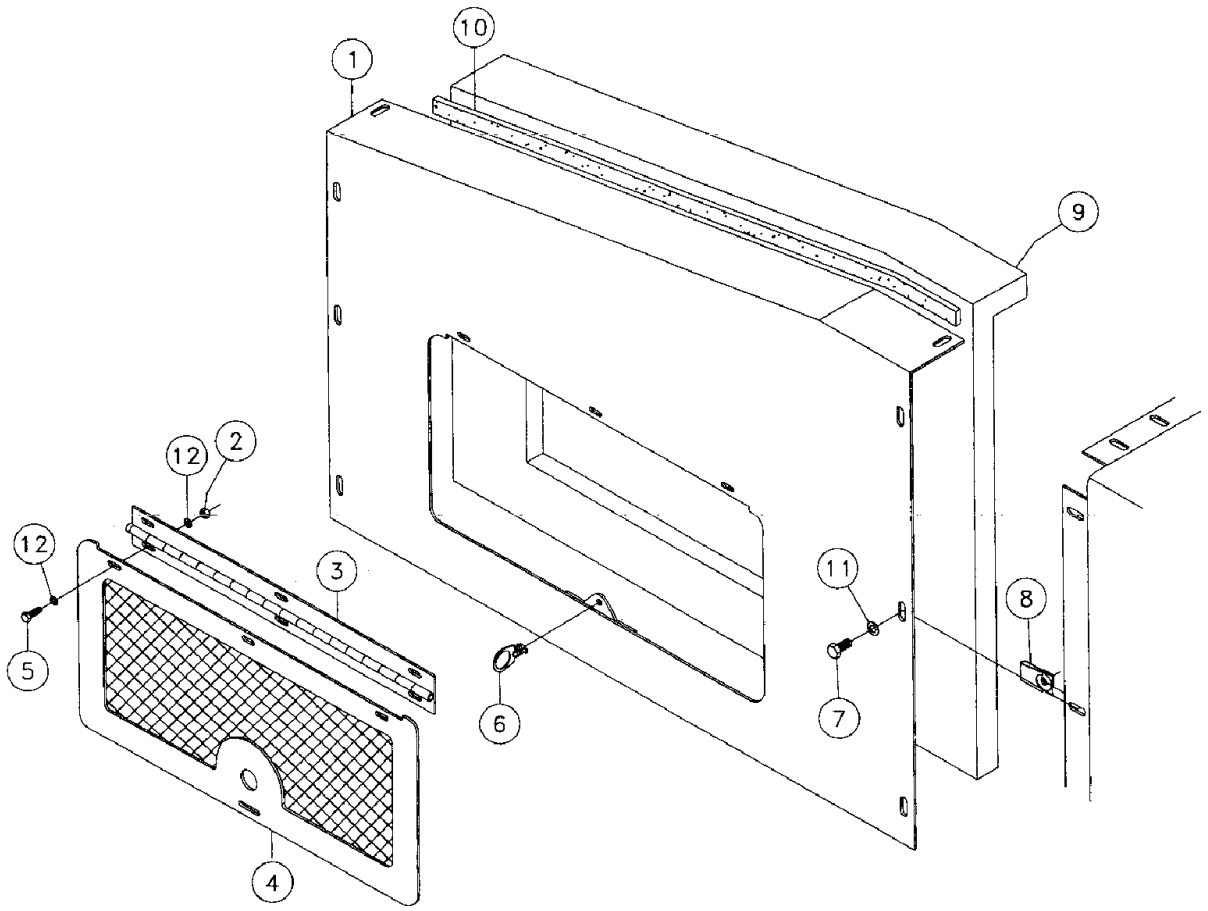


Engine Mount Assy Fig 2-4r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		238616001	BASE-ENGINE MOUNTING	1	
2		250516001	BOLT-12M X 35M GR.8 Y/ZINC	6	
3		238249001	12 MM HARD WASHER Y/ZINC	6	
4		241065001	NUT-5/8 UNC GR8 HEX ZINC	3	
5		235715001	WASHER-5/8 SAE HARD ZINC PLTD	6	
6		228267001	MOUNT-FRONT ENGINE	1	
7		220165001	MOUNT-M500-50-NR RUBBER	3	
8		250500001	BOLT 5/8”-11 X 3 3/4” GR8 HEX	3	
9		235731001	NUT-1/2-13 GR8 ZINC PLTD	6	S/N 101 - 1769
	*	250512001	NUT- 1/2 NC Gr8 TOP LOCK Y/ ZINC	6	S/N 1770 -
10		220203001	SLUG-ENGINE MOUNT	6	
11		485025	WASHER-1/2 FLAT-HARDENED-ZINC	6	
12		240334001	BOLT-1/2-13X1 3/4 GR8 ZINC PLT	6	
13		228271001	MOUNT-REAR ENGINE	1	

Engine Compartment Shields Assy - Left Fig 2-5r01

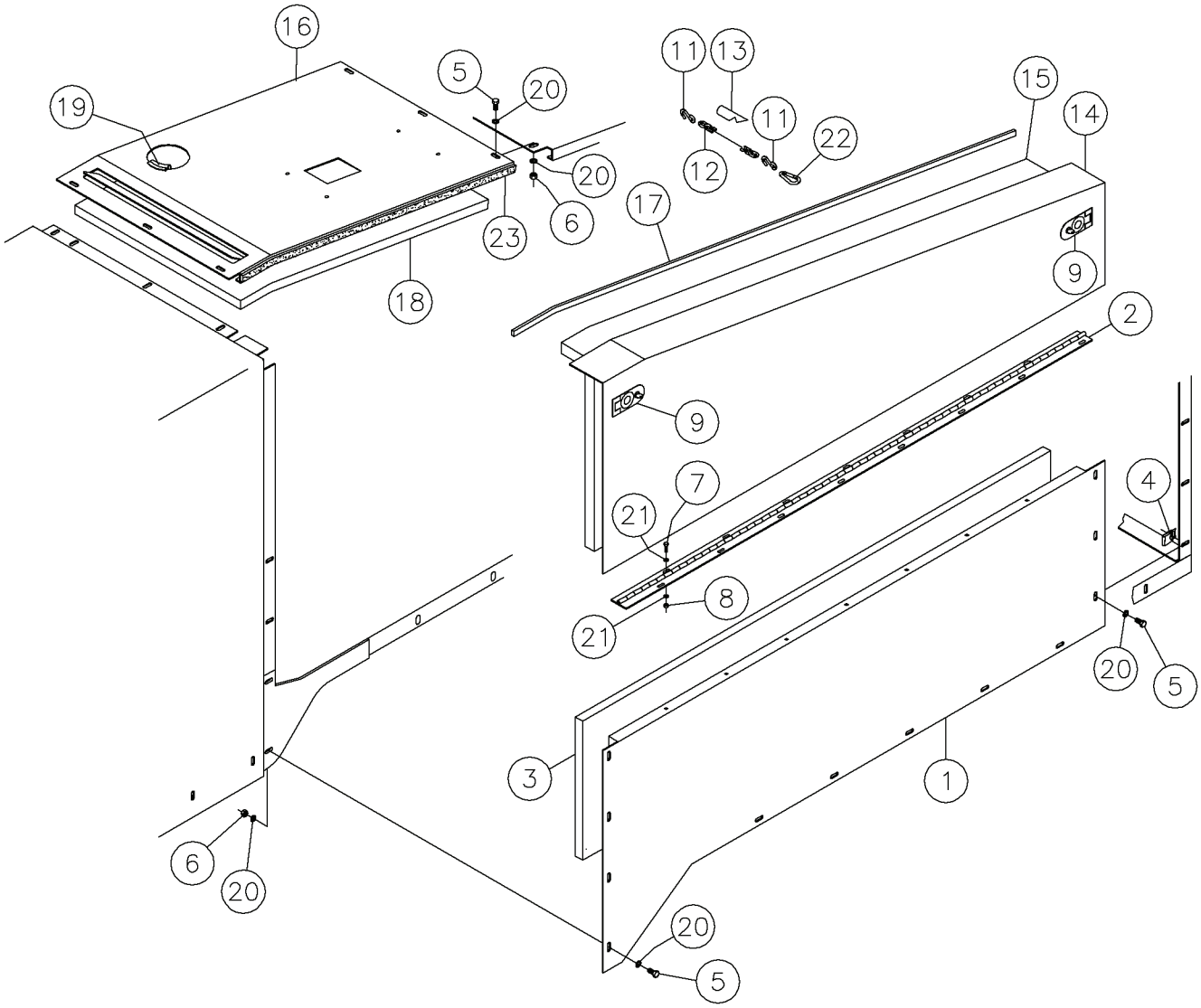
Revised February 1999 due to update in parts list. Changed part marked with *.



Engine Compartment Shields Assy - Left Fig 2-5r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List
1		238612001	SHIELD-ENGINE SIDE	1	
2		235732001	NUT-1/4-20 GR8 ZINC PLTD	6	
3		240809001	HINGE-ACCESS	1	
4		240807001	DOOR-ACCESS	1	
5		235734001	BOLT-1/4-20X3/4 GR8 ZINC PLTD	6	
6		86113001	FASTENER-1/4 TURN	1	
7		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	8	
8	*	13323001	U-CLIP - 3/8-16	8	
9		238629001	FOAM-LEFT SIDE SHIELD	1	
10		18991001	WEATHERSTRIP-5/16X3/4 SELFSTK	AR	P/N Qty Of 1 = 1 Foot
11		235713001	WASHER-3/8 SAE HARD ZINC PLTD	8	
12		235716001	WASHER-1/4 SAE HARD ZINC PLTD	12	

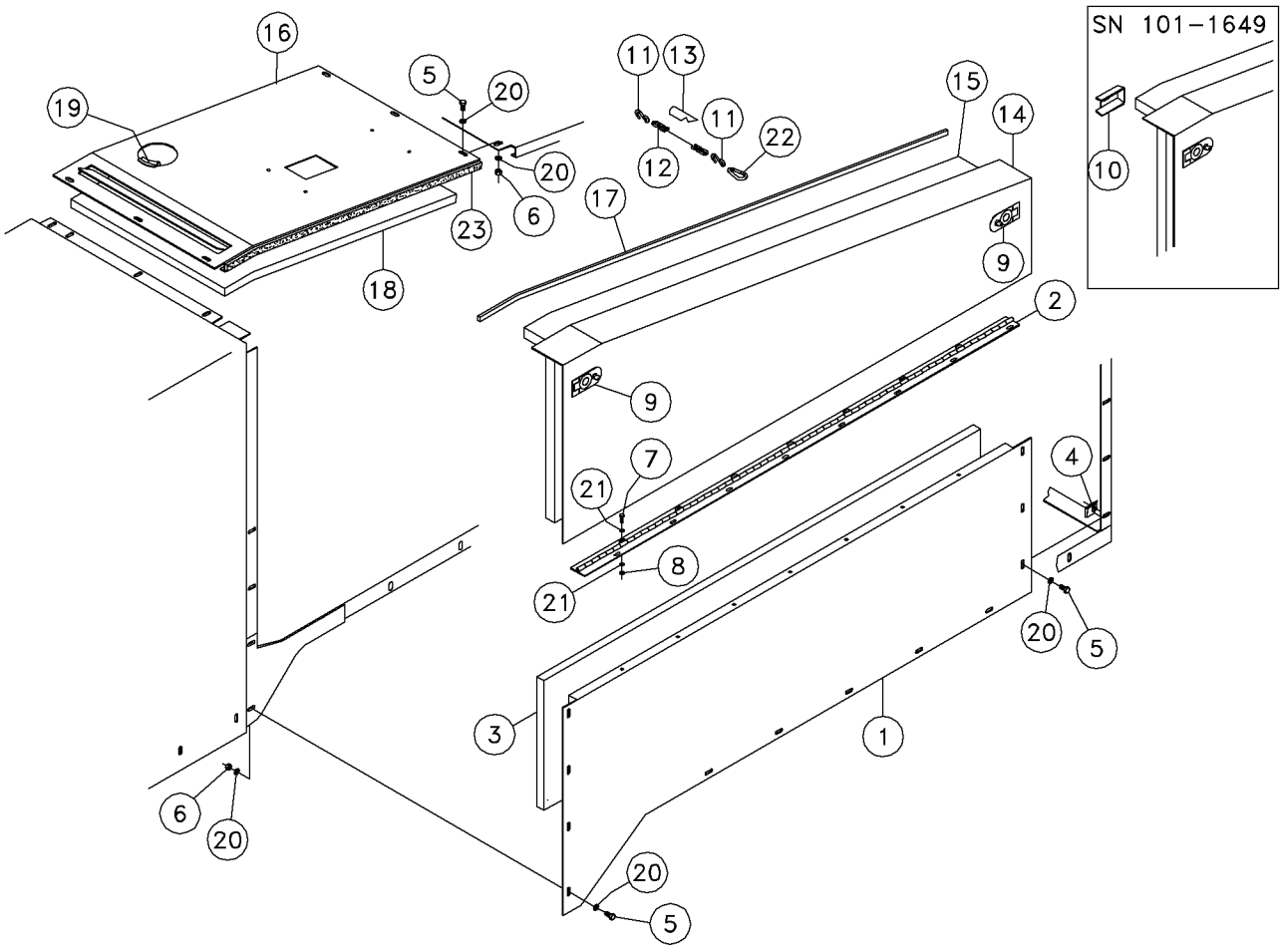
Engine Compartment Shields Assy - Top/Right Fig 2-6r05



Engine Compartment Shields Assy - Top/Right Fig 2-6r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		228367001	SHIELD-ENGINE SIDE (LOWER)	1	
2		228373001	HINGE-SHIELD	1	
3		228299001	FOAM-LOWER SIDE SHIELD	1	
4		13323001	U-CLIP - 3/8-16	6	
5		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	18	
6		235725001	NUT-3/8-16 GR8 ZINC PLTD	16	
7		235734001	BOLT-1/4-20 X 3/4 GR8 ZINC PLTD	15	
8		235732001	NUT-1/4-20 GR8 ZINC PLTD	15	
9		110479001	LATCH-SEALED LEVER (INC. KEYS)	2	
		97874003	KEYS	2	
10		228308001	BAR-CLAMP	2	S/N 101 - 1649
11		76533001	HOOK-3/16 “S”	2	
12		904815001	CHAIN-BREAKAWAY SWITCH	1	
13		208065001	SHRINK TUBE-3/4ID COMMERCL GRD	A/R	P/N Qty Of 1 = 1 Foot
14		238610001	SHIELD-UPPER SIDE ENGINE	1	
15		238628001	FOAM-UPPER SIDE SHIELD	1	
16	*	296260323	SHIELD - TOP ENGINE	1	
17		245059001	TAPE-URETHANE .75”WX 36 YD ROL	A/R	P/N Qty Of 1 = 1 Each, A 36 Yard Roll
18		238624001	FOAM-TOP SHIELD	1	
19		97456001	SEAL-BULB EDGE 1/8” STYLE	A/R	P/N Qty Of 1 = 1 Foot
20		235713001	WASHER-3/8 SAE HARD ZINC PLTD	16	
21		235716001	WASHER-1/4 SAE HARD ZINC PLTD	30	
22		235748001	CHAIN SNAP -3/16 S.S.	1	
23		18991001	WEATHERSTRIP-5/16X3/4 SELFSTK	A/R	P/N Qty Of 1 = 1 Foot

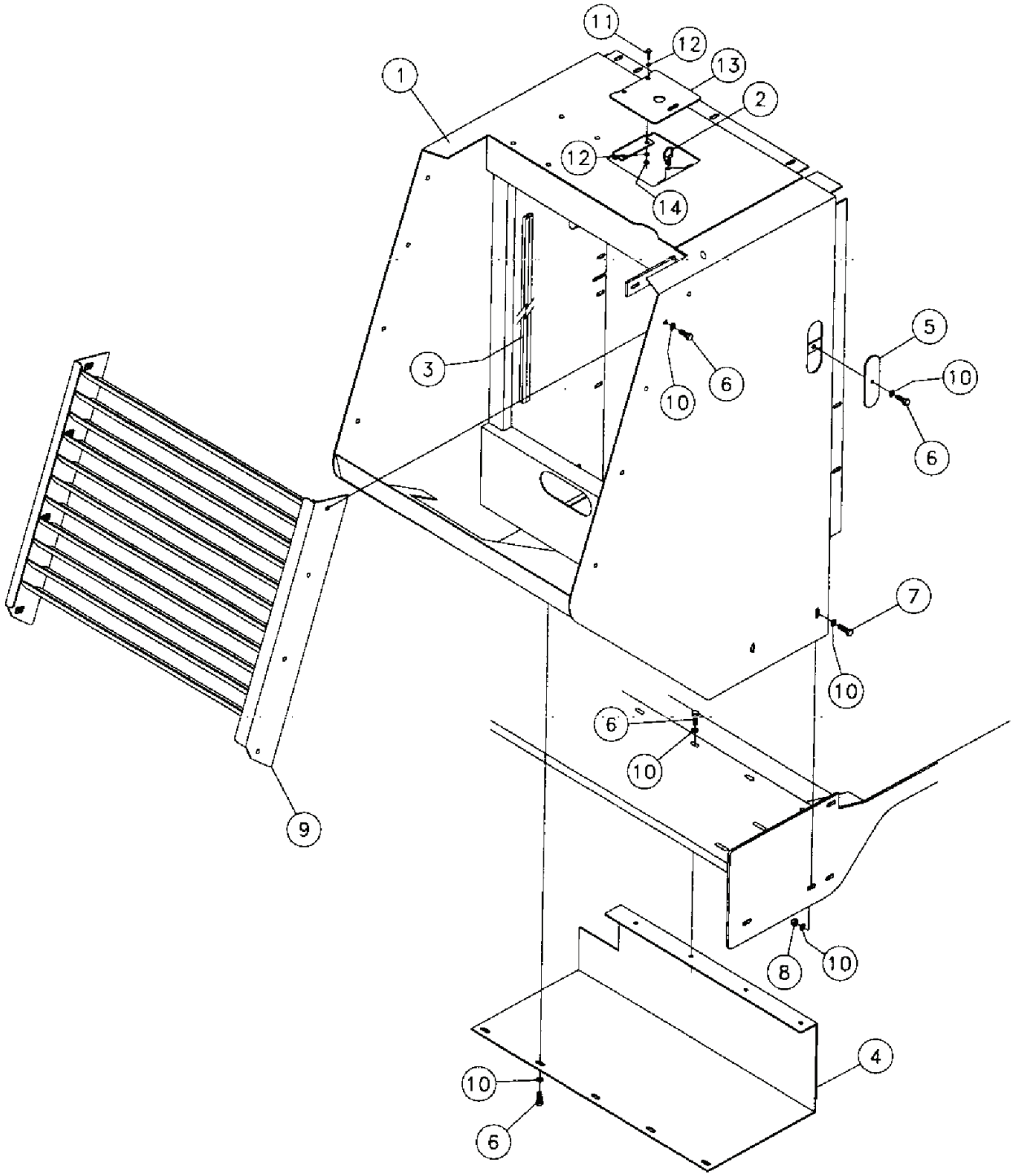
Engine Compartment Shields Assy - Top/Right Fig 2-6r04



Engine Compartment Shields Assy - Top/Right Fig 2-6r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		228367001	SHIELD-ENGINE SIDE (LOWER)	1	
2		228373001	HINGE-SHIELD	1	
3		228299001	FOAM-LOWER SIDE SHIELD	1	
4		13323001	U-CLIP - 3/8-16	6	
5		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	18	
6		235725001	NUT-3/8-16 GR8 ZINC PLTD	16	
7		235734001	BOLT-1/4-20 X 3/4 GR8 ZINC PLTD	15	
8		235732001	NUT-1/4-20 GR8 ZINC PLTD	15	
9		110479001	LATCH-SEALED LEVER (INC. KEYS)	2	
		97874003	KEYS	2	
10		228308001	BAR-CLAMP	2	S/N 101 - 1649
11		76533001	HOOK-3/16 “S”	2	
12		904815001	CHAIN-BREAKAWAY SWITCH	1	
13		208065001	SHRINK TUBE-3/4ID COMMERCL GRD	A/R	P/N Qty Of 1 = 1 Foot
14		238610001	SHIELD-UPPER SIDE ENGINE	1	
15		238628001	FOAM-UPPER SIDE SHIELD	1	
16		238627001	SHIELD-TOP ENGINE	1	
17		245059001	TAPE-URETHANE .75”WX 36 YD ROL	A/R	P/N Qty Of 1 = 1 Each, A 36 Yard Roll
18		238624001	FOAM-TOP SHIELD	1	
19		97456001	SEAL-BULB EDGE 1/8” STYLE	A/R	P/N Qty Of 1 = 1 Foot
20		235713001	WASHER-3/8 SAE HARD ZINC PLTD	16	
21		235716001	WASHER-1/4 SAE HARD ZINC PLTD	30	
22		235748001	CHAIN SNAP -3/16 S.S.	1	
23		18991001	WEATHERSTRIP-5/16X3/4 SELFSTK	A/R	P/N Qty Of 1 = 1 Foot

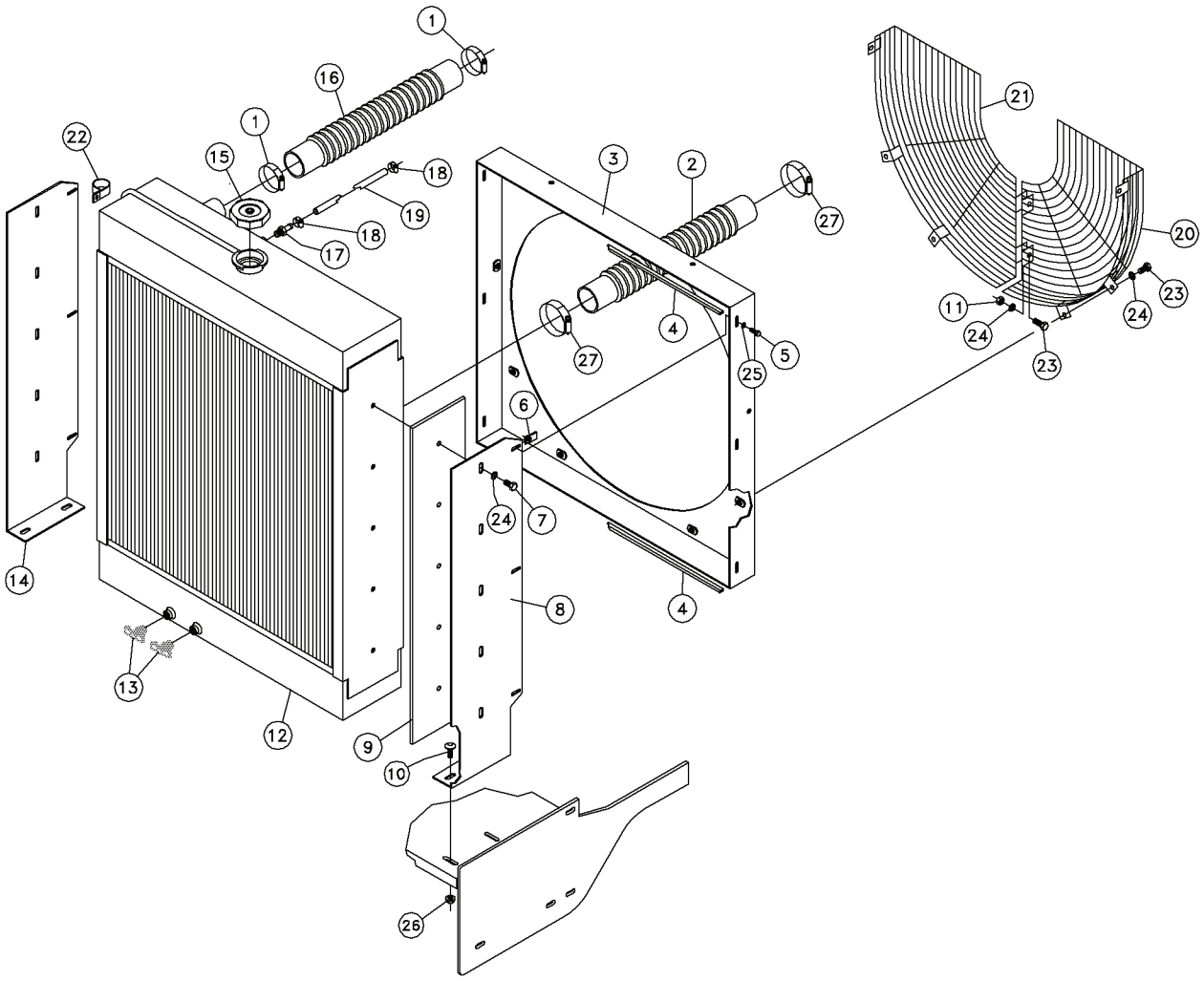
Radiator Shield Assy Fig 2-7



Radiator Shield Assy Fig 2-7

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		245019001	SHIELD-RADIATOR DEFLECTOR	1	
2		86113001	FASTENER-1/4 TURN	1	
3		97456001	SEAL-BULB EDGE 1/8” STYLE	AR	P/N Qty Of 1 = 1 Foot
4		238614001	SHIELD-MUFFLER	1	
5		245014001	COVER-ACCESS	2	
6		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLT	19	
7		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	4	
8		235725001	NUT-3/8-16 GR8 ZINC PLTD	4	
9		245039001	INSERT-GRILLE	1	
10		235713001	WASHER-3/8 SAE HARD ZINC PLTD	27	
11		235734001	BOLT-1/4-20X3/4 GR8 ZINC PLTD	2	
12		235716001	WASHER-1/4 SAE HARD ZINC PLTD	4	
13		245063001	DOOR-ACCESS	1	
14		235732001	NUT-1/4-20 GR8 ZINC PLTD	2	

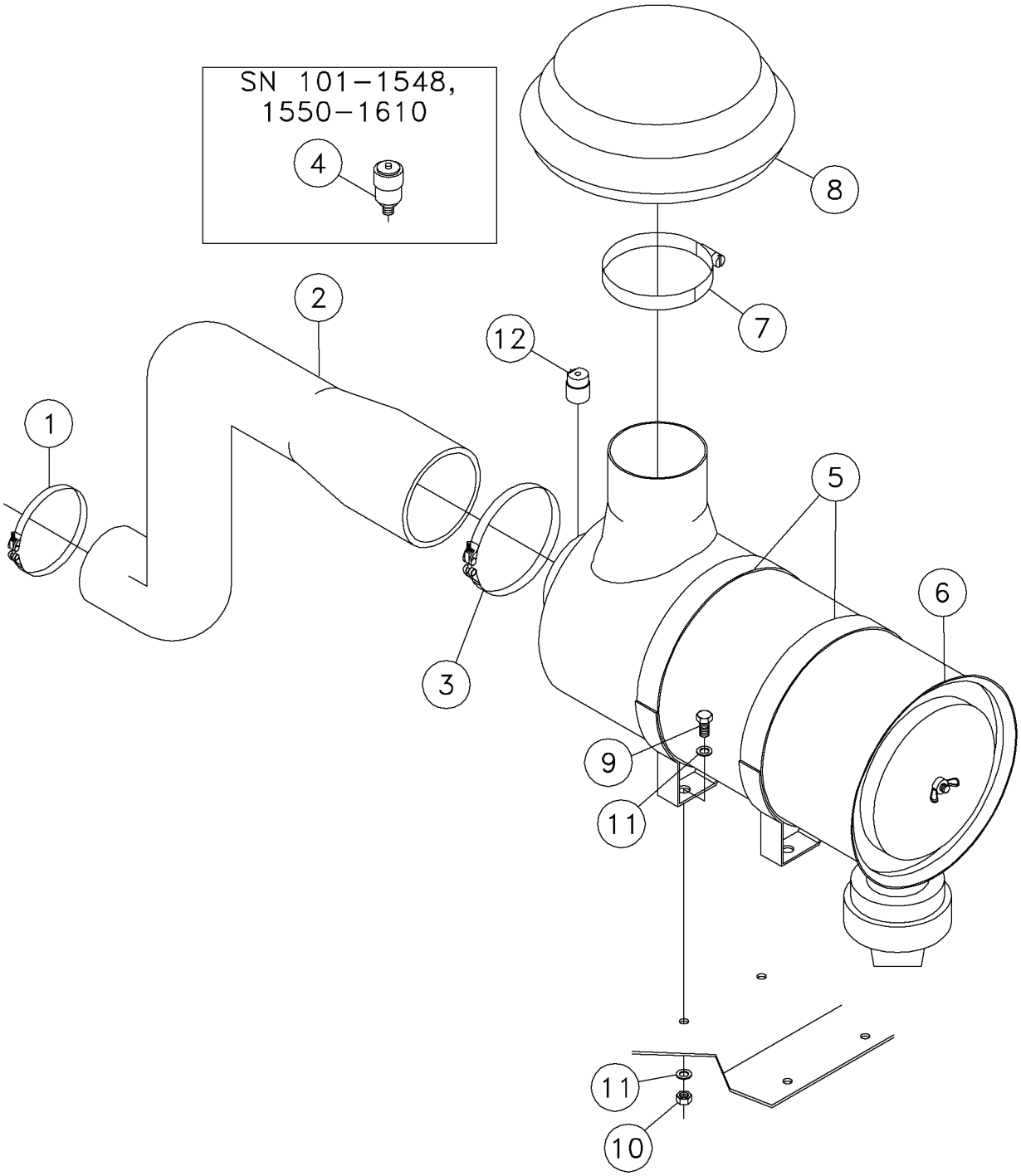
Radiator Assy Fig 2-8r02



Radiator Assy Fig 2-8r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		1580009	HOSE CLAMP - 1 3/4”	4	
2	*	246430001	HOSE - 2 1/4 X 19 FLEX	1	Replaces 240804001
3		238564001	SHROUD - FAN	1	
4		97456001	SEAL-BULB EDGE 1/8” STYLE	A/R	P/N Qty Of 1 = 1 Foot
5		235734001	BOLT-1/4-20X3/4 GR8 ZINC PLTD	6	
6		19272001	CLIP-NUT 1/4-20 C33880-1420	6	
7		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLTD	16	
8		238601001	PLATE-RADIATOR MOUNTING	1	
9		238640001	FOAM-RADIATOR	2	
10		375010	BOLT-3/8”-16X1”GD#5 CARRIAGE	4	
11		235725001	NUT-3/8-16 GR8 ZINC PLTD	6	
12		238636001	RADIATOR-(13-6272611-3)	1	
13		225532005	DRAIN COCK-1/4”	2	
14		238600001	HOSE-3/8” 200PSI 1 PLY BLACK (SPECIFY LENGTH)	1	
15		68125001	CAP-RADIATOR TR102 (7 PSI)	1	
16		224849001	HOSE-1 3/4ID X 19” COOLANT (UPPER)	1	
17		102118001	FITTING-1/4NPT X 3/8 HOSE BARB	1	
18		1580001	HOSE CLAMP - 3/8”	2	
19		57706001	HOSE-3/8” 200PSI 1 PLY BLACK	A/R	P/N Qty Of 1 = 1 Foot
20		238656001	GUARD - LEFT	1	
21		238655001	GUARD-RIGHT FAN	1	
22		2595001	HOSE CLAMP - TS7FR 1/2”	2	
23		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	2	
24		235713001	WASHER-3/8 SAE HARD ZINC PLTD	14	
25		235716001	WASHER-1/4 SAE HARD ZINC PLTD	6	
26		4536001	NUT-3/8-16 FLANGE WHIZ	4	
27		1580013	HOSE CLAMP-2 1/2”	2	

Air Cleaner Assy Fig 2-9r01

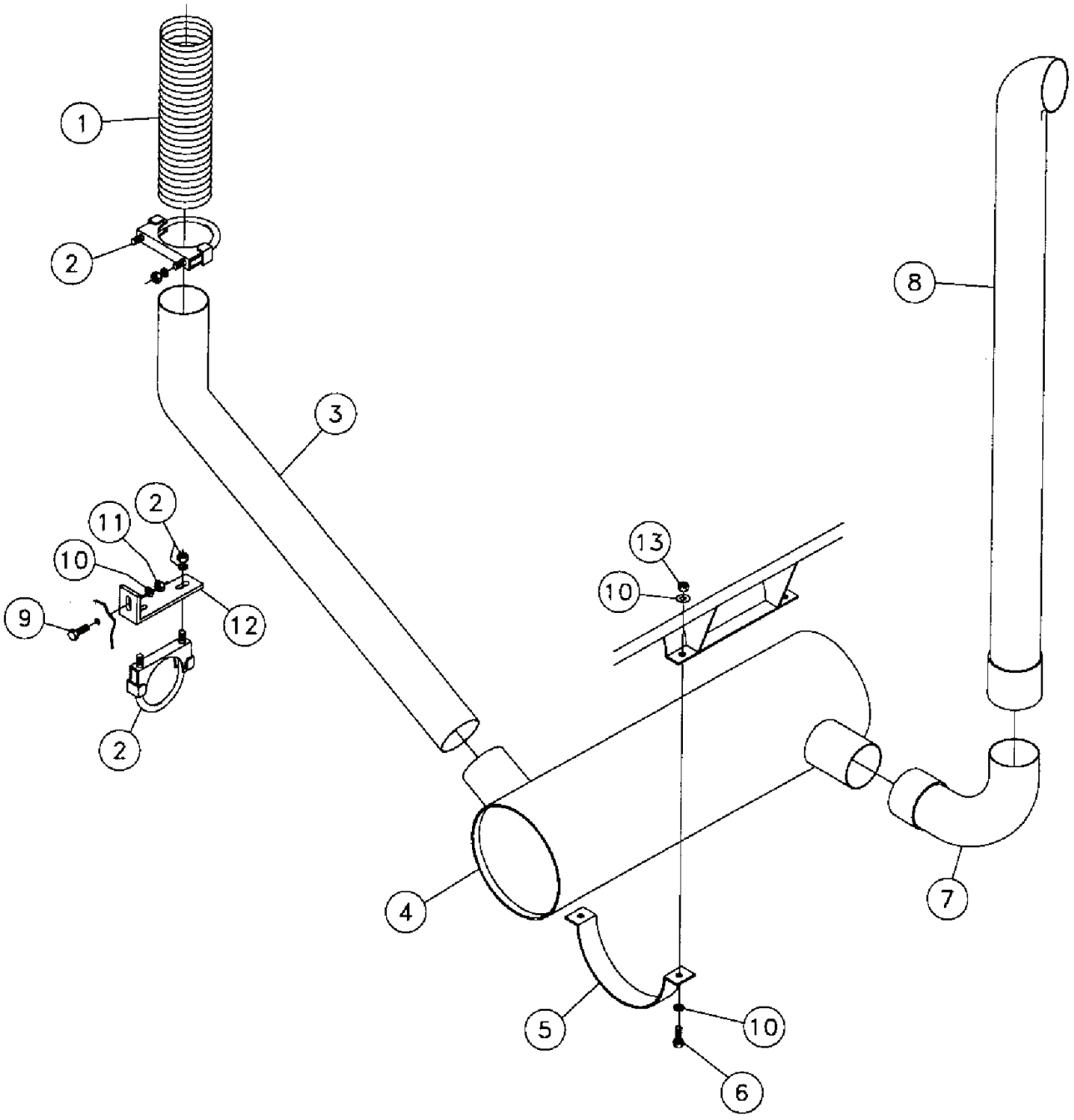


Air Cleaner Assy Fig 2-9r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		96072001	CLAMP-3 1/2” T-BOLT	1	
2		240810001	HOSE-AIR INTAKE	1	
3		102628001	CLAMP-4 1/2” T-BOLT	1	
4		2165001	INDICATOR	1	S/N 101 - 1548, 1610
5		901499001	MOUNTING BAND	2	
6		901498001	AIR CLEANER	1	Breakdown Fig 2-12
7		1580023	HOSE CLAMP - 5 1/2”	1	
8		901500001	AIR CLEANER CAP	1	Inc Ref No 9
9		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	4	
10		235725001	NUT-3/8-16 GR8 ZINC PLTD	4	
11		235713001	WASHSER-3/8 SAE HARD ZINC PLTD	8	
12	*	251159001	INDICATOR	1	S/N 1549, 1611 -

Muffler Assy Fig 2-10r01

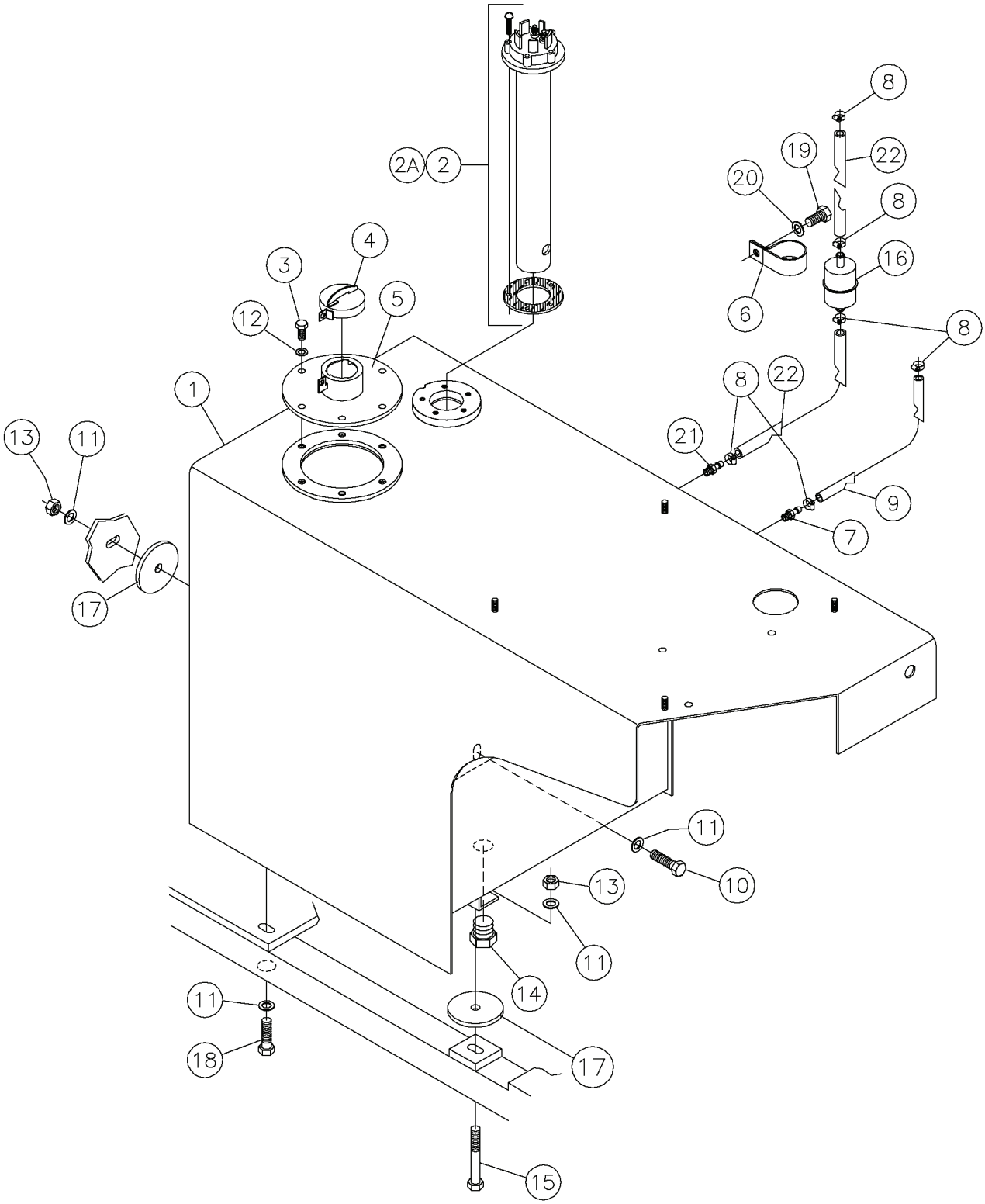
Revised February 1999 due to update in parts list. Changed/added parts marked with *.



Muffler Assy Fig 2-10r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List.
1		240802001	FLEX TUBING-3” DIA X 12”	1	
2		2609011	MUFFLER CLAMP - 3”	7	
3		238641001	PIPE-3” OD EXHAUST	1	
4		238602001	MUFFLER-3” EXHAUST	1	
5		238625001	STRAP-MUFFLER CLAMP	2	
6		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	4	
7		240803001	TUBE-3” OD 90 DEGREES ELBOW	1	
8		240814001	STACK PIPE - 3” BLACK 60”	1	
9		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	1	
10	*	235713001	WASHER-3/8 SAE HARD ZINC PLTD	9	
11		235725001	NUT-3/8-16 GR8 ZINC PLTD	1	
12		240759001	PLATE-MUFFLER SUPPORT	1	
13	*	250508001	NUT-3/8 NC GR 8 TOP LOCK Y/ZINC	4	

Fuel Tank Assy Fig 2-11r02

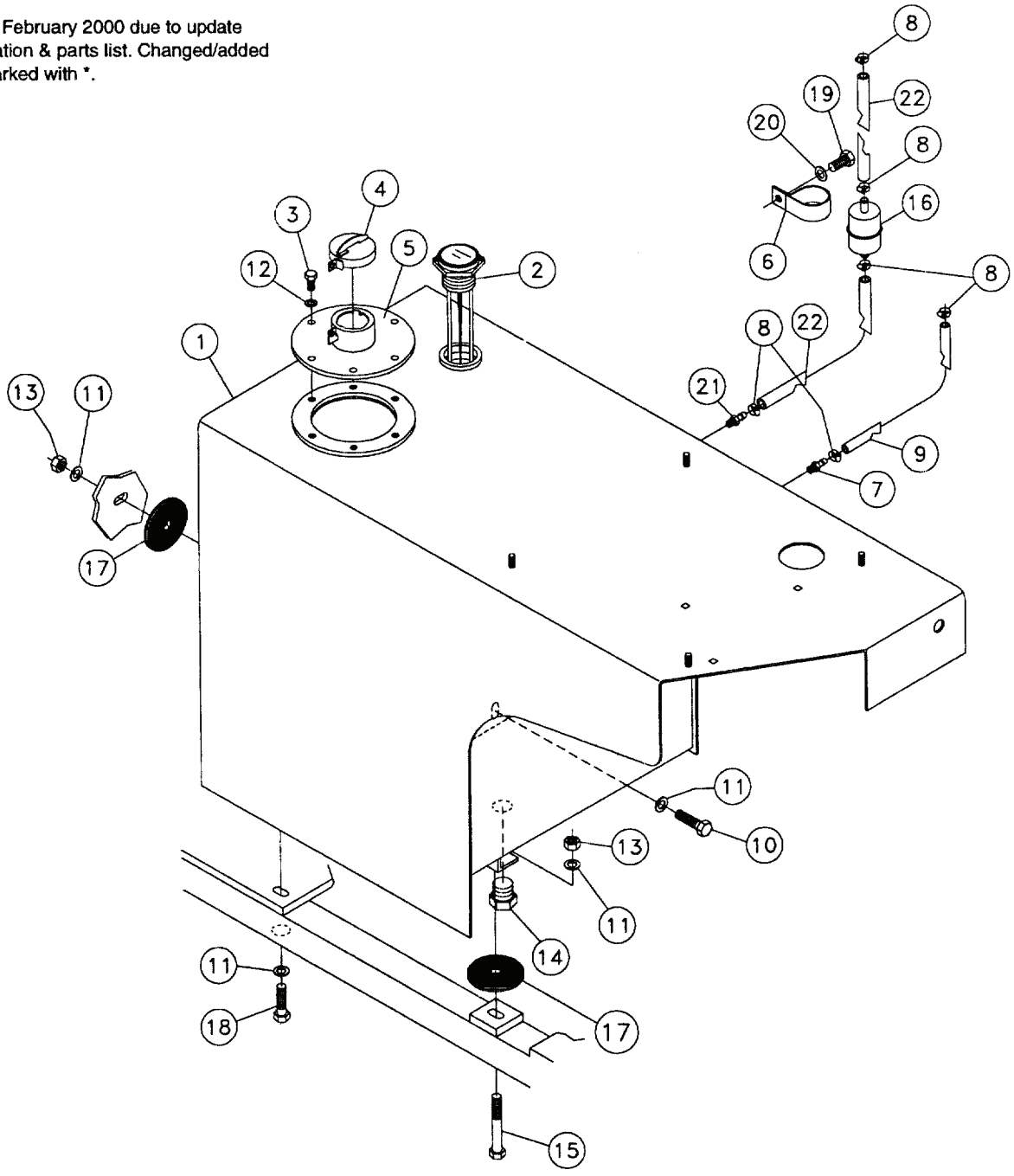


Fuel Tank Assy Fig 2-11r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1	*	287643003	TANK-FUEL	1	
2	*	292038001	SENDER - FUEL LEVEL	1	
	*	251538001	GASKET - FUEL LEVEL		
3		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLT	6	
4		235909001	CAP-DIESEL FUEL (LOCKABLE)	1	
5		235899001	FILLER-LOCKABLE FUEL	1	
6		230965001	CLAMP-1 3/4” W/ 17/32” HOLE	1	
7		78171001	FITTING-1/8MNPTX5/16BARB STR.	2	
8		1580001	HOSE CLAMP - 3/8”	6	
9		620001	HOSE - 5/16 FUEL LINE	A/R	P/N Qty Of 1 = 1 Foot
10		235718001	BOLT-1/2-13X2 GR8 HEX ZINC PLT	2	
11		485025	WASHER-1/2 FLAT-HARDENED-ZINC	5	
12		235713001	WASHER-3/8 SAE HARD ZINC PLTD	6	
13		235731001	NUT-1/2-13 GR8 ZINC PLTD	3	
14		67570001	PLUG-12M	1	
15		238241001	BOLT 1/2”-13X 3 1/2” GR8 HEX Y	1	
16		102995001	STRAINER	1	
17		235944001	DISC-RUBBER SPACER	3	
18		240334001	BOLT-1/2-13X1 3/4 GR8 ZINC PLT	1	
19		250501001	BOLT 12MM X 25MM GR10.9 HEX Y/	1	
20		238249001	12 MM HARD WASHER Y/ZINC	1	
21		287523001	FITTING - 1/8 MNPT X 3/8 BARB STR.	1	S/N 1244 -
22	*	124629001	HOSE-3/8 ID X .62 OD 50#PSI	A/R	P/N Qty Of 1 = 1 Foot

Fuel Tank Assy Fig 2-11r01

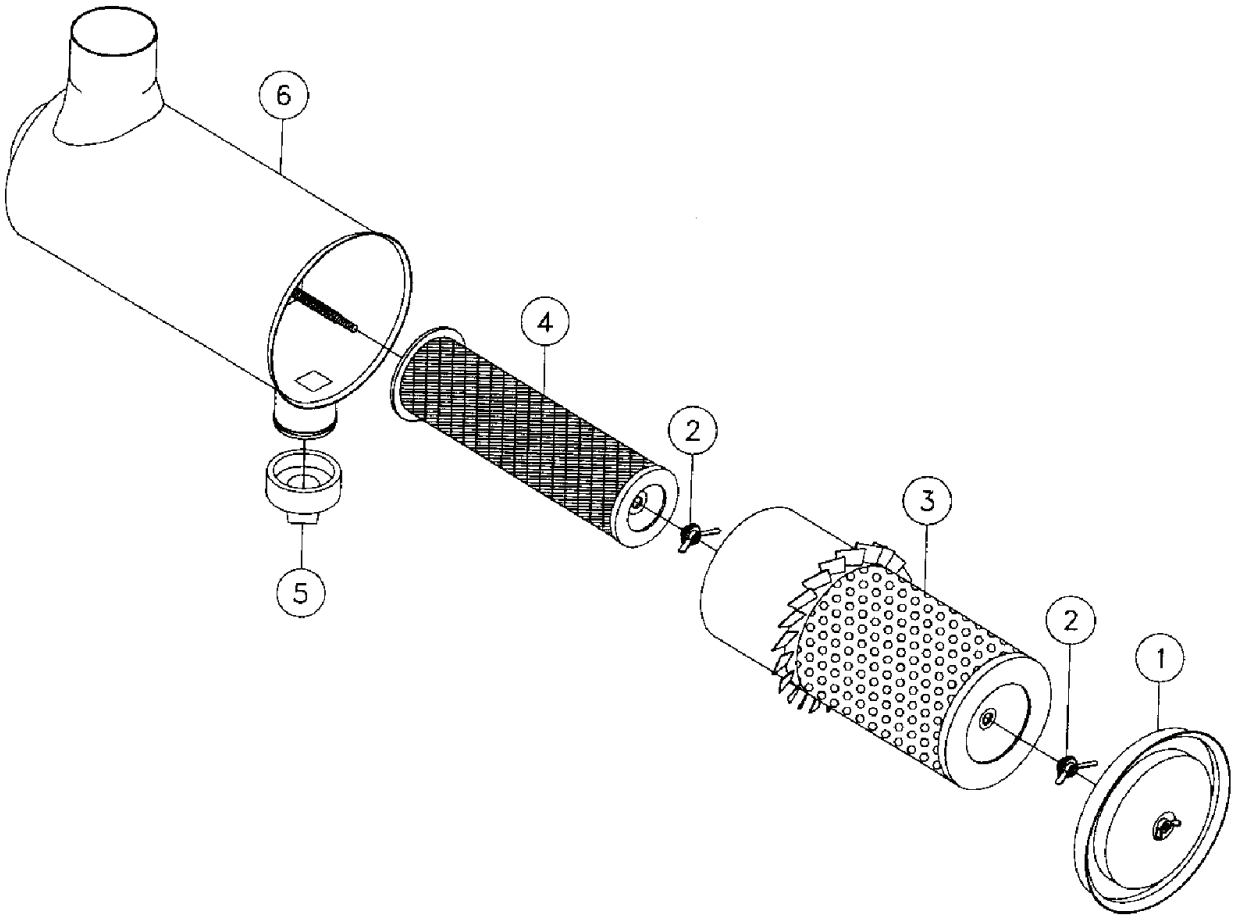
Revised February 2000 due to update in illustration & parts list. Changed/added parts marked with *.



Fuel Tank Assy Fig 2-11r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Illustration & Parts List
1	*	236422003	TANK - FUEL	1	
2		60109001	8680 SPIRAL LEVEL GAUGE 19”	1	
3		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLT	6	
4		235909001	CAP-DIESEL FUEL (LOCKABLE)	1	
5		235899001	FILLER-LOCKABLE FUEL	1	
6		230965001	CLAMP-1 3/4” W/ 17/32” HOLE	1	
7	*	78171001	FITTING-1/8MNPTX5/16BARB STR.	2	
8		1580001	HOSE CLAMP - 3/8”	6	
9	*	620001	HOSE - 5/16 FUEL LINE	A/R	P/N Qty Of 1 = 1 Foot
10		235718001	BOLT-1/2-13X2 GR8 HEX ZINC PLT	2	
11		485025	WASHER-1/2 FLAT-HARDENED-ZINC	5	
12		235713001	WASHER-3/8 SAE HARD ZINC PLTD	6	
13		235731001	NUT-1/2-13 GR8 ZINC PLTD	3	
14		67570001	PLUG-12M	1	
15		238241001	BOLT 1/2”-13X 3 1/2” GR8 HEX Y	1	
16		102995001	STRAINER	1	
17		235944001	DISC-RUBBER SPACER	3	
18		240334001	BOLT-1/2-13X1 3/4 GR8 ZINC PLT	1	
19		250501001	BOLT 12MM X 25MM GR10.9 HEX Y/	1	
20		238249001	12 MM HARD WASHER Y/ZINC	1	
21	*	287523001	FITTING - 1/8 MNPT X 3/8 BARB STR.	1	S/N 1244 -
22	*	57706001	HOSE-3/8” 200PSI 1 PLY BLACK	A/R	P/N Qty Of 1 = 1 Foot

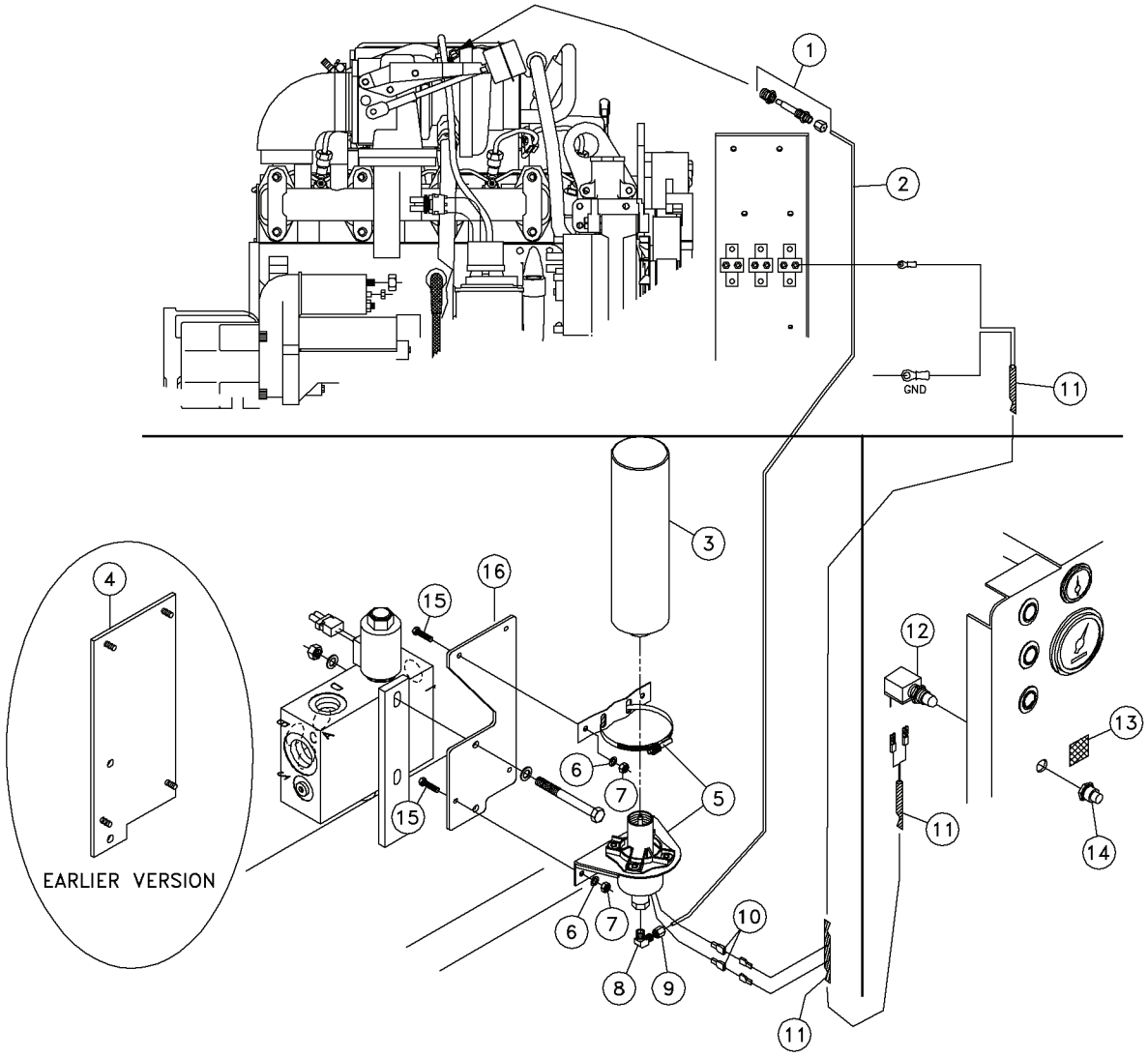
Air Cleaner Components Fig 2-12



Air Cleaner Components Fig 2-12

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		901498005	CUP ASSY P11-5466	1	
2		2146009	NUT-WING P10-2144	2	
3		901498003	ELEMENT-AIR CLEANER P18-2063	1	
4		901498007	ELEMENT-SAFETY P11-9778	1	
5		200867007	VALVE-VACUATOR	1	
6		901498009	BODY ASSY P12-0007 - NLA	1	
		901498001	AIR CLEANER FFG09-0197		Includes All Items In Figure

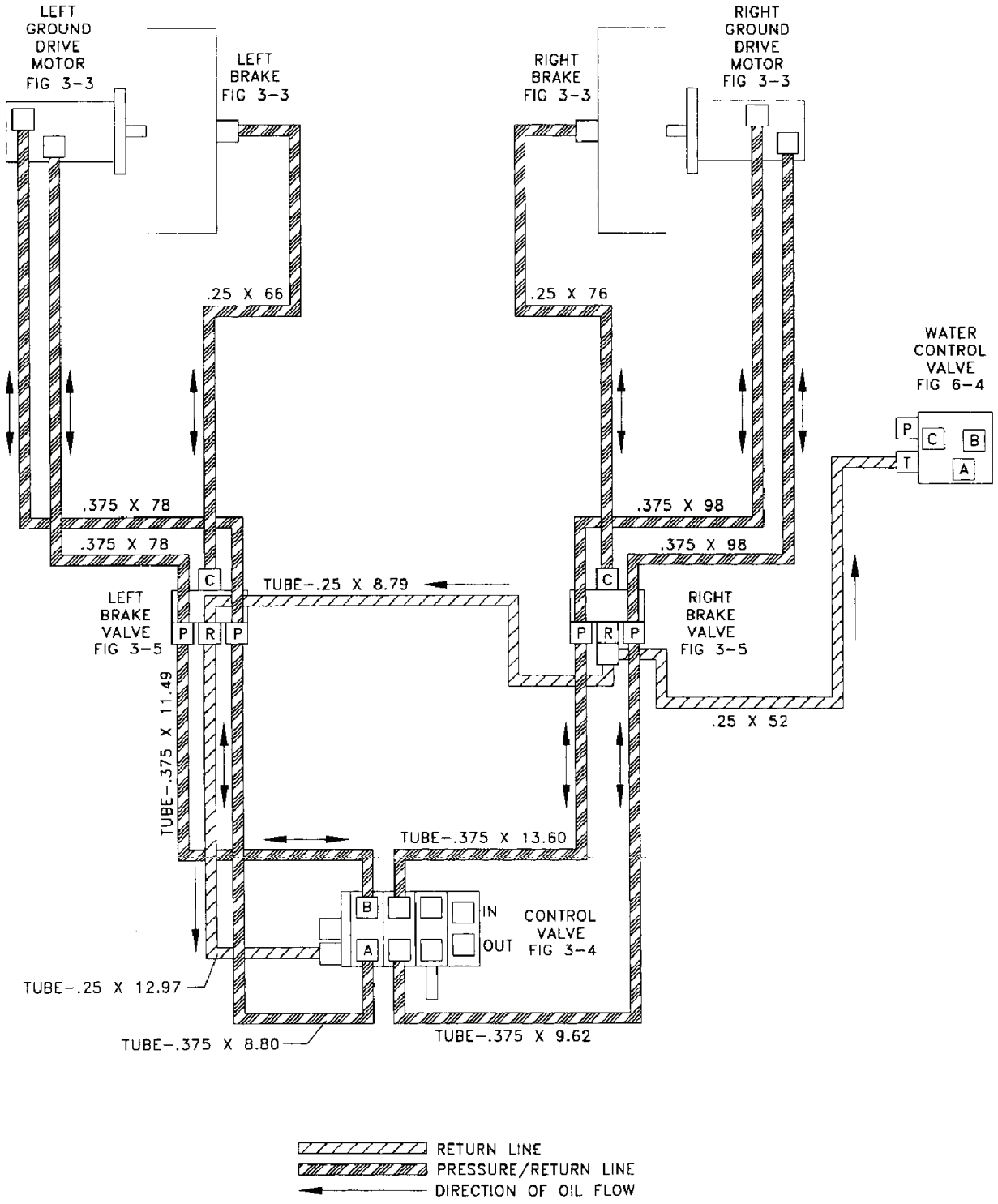
Ether Starting System Assy Fig 2-13r02



Ether Starting System Assy Fig 2-13r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration
1		223972001	ATOMIZER-START FLUID 2 HOLE 180	1	
2		202831001	TUBING-NYLON 1/8OD X 100’	A/R	P/N Qty Of 1 = 1 Foot
3		223973001	CYLINDER-START FLUID 18 OZ	1	
4		250544001	ADAPTER-PLATE MOUNT	1	
5		250606001	ETHER AID KIT	1	Inc Ref No’s 1, 2, 8, 9 & 12
6		250606001	WASHER-1/4 SAE HARD ZINC PLTD	4	
7		235732001	NUT-1/4-20 GR8 ZINC PLTD	4	
8		125406003	FITTING	1	Inc Ref No 9
9		125406005	FITTING ASSY	1	
10		18988001	TERM-.250 FULL INS MALE SLD 16 GA	2	
11		250545001	WIRE HARNESS-ETHER SYSTEM	1	
12		66816001	SWITCH ASSY- #13389	1	
13		700IA193	DECAL-ETHER STARTING (UND)	1	
14		90622001	COVER-PUSH BUTTON SWITCH 5/8-32	1	
15		235735001	BOLT-1/4 X 20 X 1 GR 8 HEX ZINC	4	S/N 1183 -
16		250544001	PLATE-MOUNT ADAPTER	1	S/N 1183 -

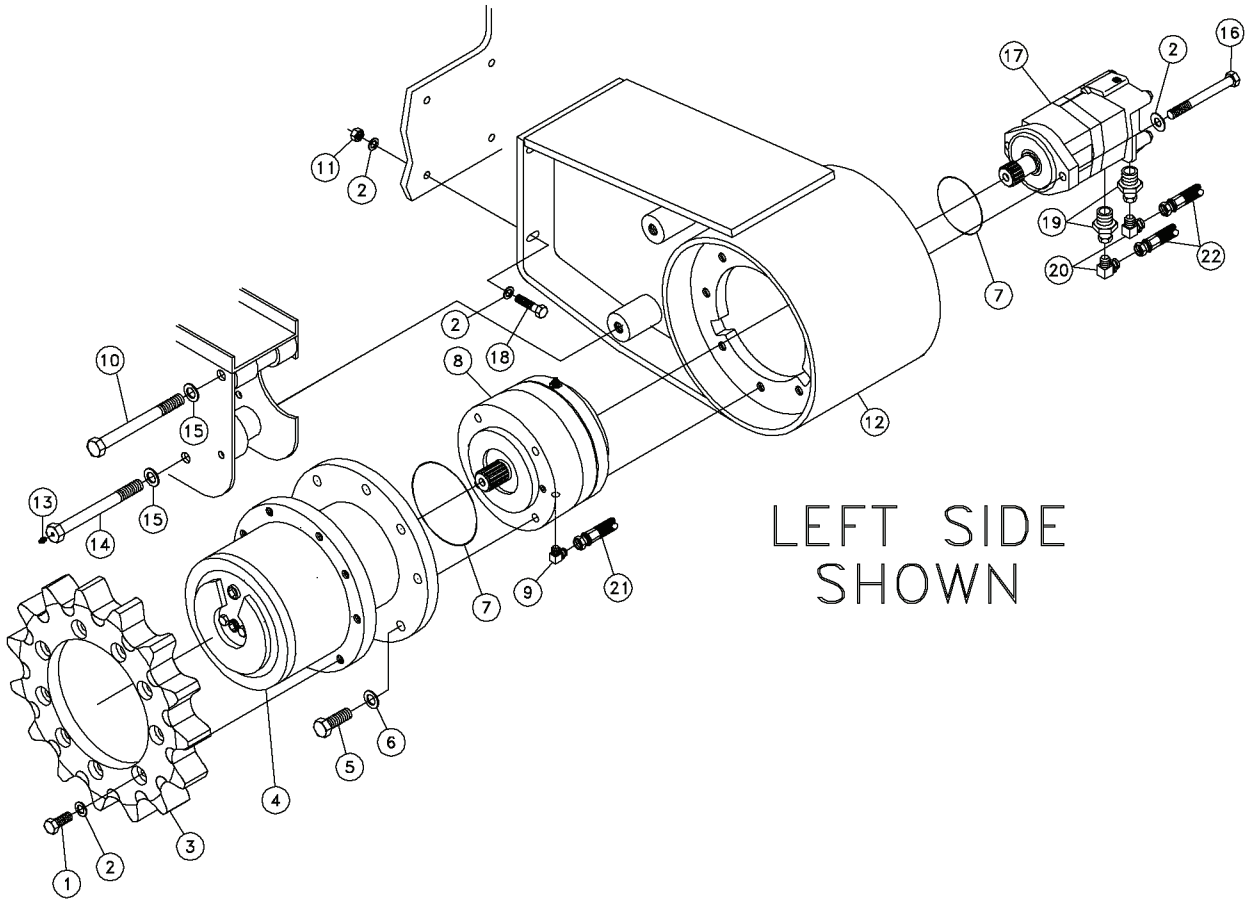
Hydraulic Components Location Diagram - Ground Drive Fig 3-1



Hydraulic Components Location Diagram - Ground Drive Fig 3-1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS

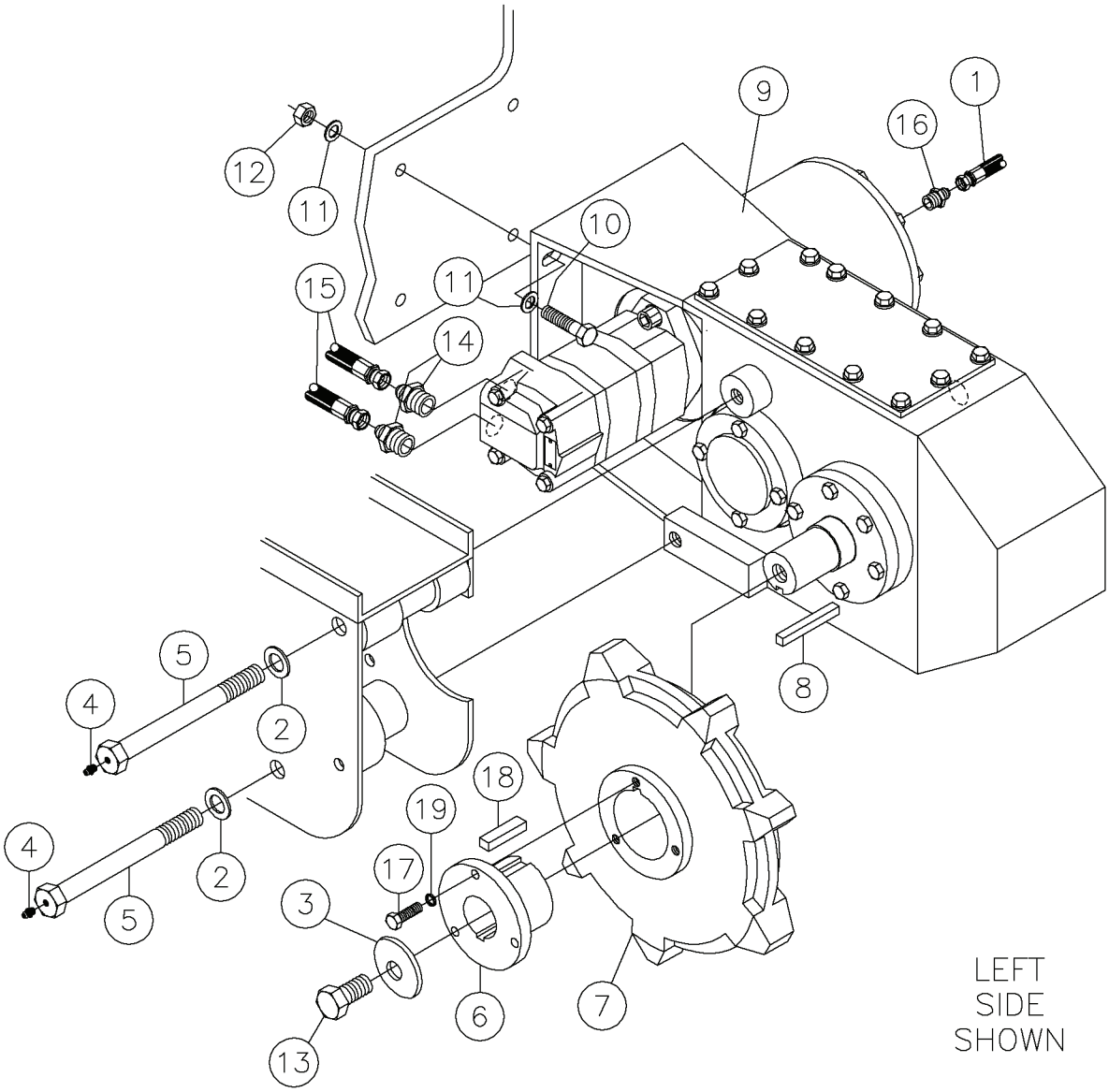
Track Drive Grearbox Assy (S/N 1773 -) Fig 3-2r04



Track Drive Grearbox Assy (S/N 1773 -) Fig 3-2r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List.
1		508347001	BOLT-1/2 X 20-1 1/4 GR 8 HE ZY	18	
2		485025	WASHER-1/2 FLAT-HARDENED ZINC	28	
3		244467001	SPROCKET-15T TRACK DRIVE	2	
4		287581001	GEARBOX-PLANETARY - 7WB15190ZX	2	Breakdown Fig. 3-12
5		230720001	BOLT-5/8-11X1 3/4 GR 8 PLATED	18	
6		235715001	WASHER-5/8 SAE HARD ZINC PLTD	18	
7		296253343	O-RING	2	
8		287582001	BRAKE-TRACK DRIVE PARK	2	Breakdown Fig. 3-13
9		59423001	FIT-4M JIC X 4M ADJ. 90 DEG. ELBOW	2	
10		240344001	BOLT-3/4-10X7 1/2 GR 8 ZINC PL	2	
11		235731001	NUT-1/2-13 GR 8 ZINC PLTD	8	
12		287533001	ADAPTER-LEFT PLANETARY	1	Shown In Figure
		287539001	ADAPTER-RIGHT PLANETARY	1	
13		598001	ZERK-1/4” NF ST GREASE	2	
14		230923001	BOLT-ROLLER ASSY.	2	
15		235717001	WASHER-3/4 FLAT HARD YELLOW ZINC	4	
16		250568001	BOLT-1/2-13 X 4 1/2 GR 8 HEX Y/Z	4	
17		287584001	MOTOR-EATON 15T 6.2 CID-2K	2	Breakdown Fig. 3-14
18		235718001	BOLT-1.2-13X2 GR 8 HEX ZINC PLT	8	
19		57967001	BUSHING-10M-6F O-RING	4	
20		59426001	FITTING-6M JIC X 6M O-RING ADJ 90 EL	4	
21		53843735	HOSE-1/4X66 4FS JIC ST/90D 3000# (LEFT SIDE)	1	Left Side
		53843737	HOSE-1/4X76 4FS JIC ST/90D 3000# (RIGHT SIDE)	1	Right Side
22		57940089	HOSE-3/8X78 6FS JIC (100R2)	2	Left Side
		57940279	HOSE-3/8X98 6FS JIC 3000 PSI	2	Right Side

Track Drive Grearbox Assy (S/N 101-1772) Fig 3-2r03c1

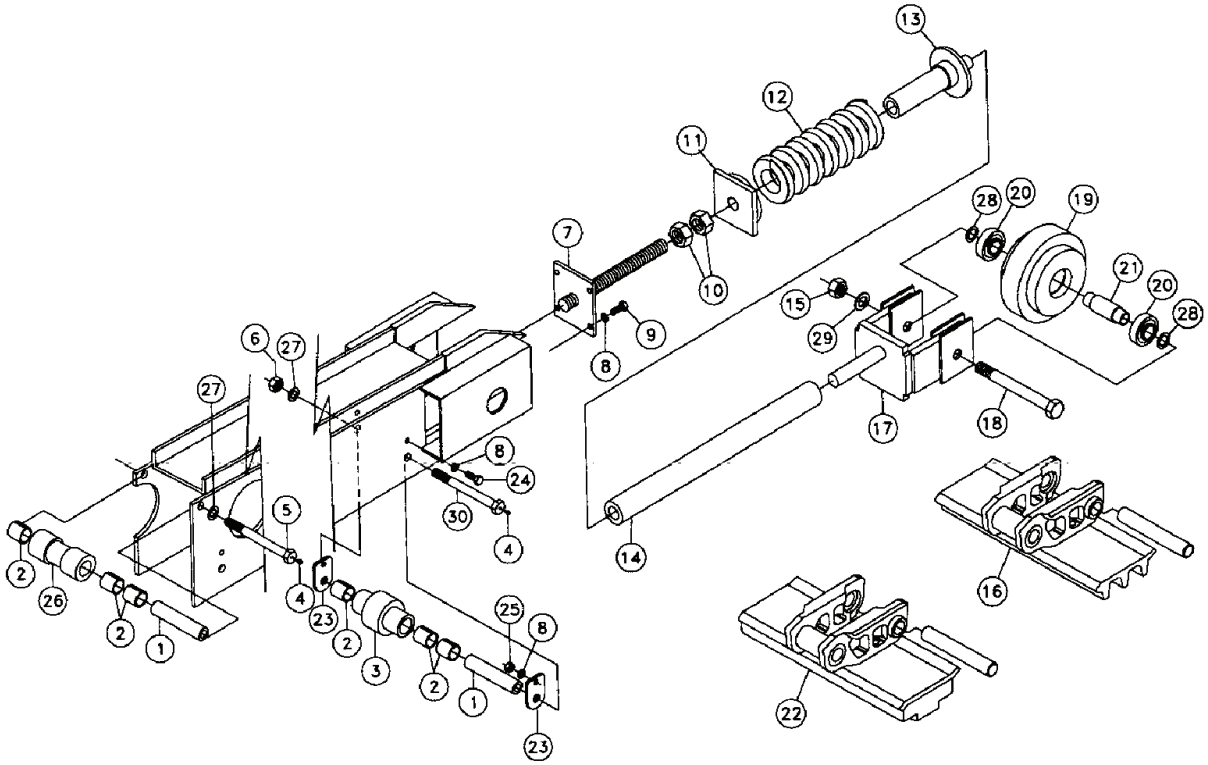


Track Drive Grearbox Assy (S/N 101-1772) Fig 3-2r03c1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		53843735	HOSE-1/4 X 66 4FS JICST/90D 3000#	1	Left Side
		53843737	HOSE-1/4 X 76 4FSJICST/90D 3000#	1	Right Side
2		235717001	WASHER-3/4 SAE HARD ZINC PLTD	16	
3		287556001	WASHER-81” ID X 2.63” OD X 3/16	1	
4		598001	ZERK-1/4” NF ST GREASE	16	
5		230923001	BOLT-ROLLER ASSY	4	Inc Ref No 4
6		240845001	BUSHING-SPLIT TAPER 2 1/4 B	2	Inc Ref No’s 17 & 18
7		228161001	SPROCKET-7T W/ HUB	2	
8	*	580001	HKEYS-3/8 X 3/8 X 3	2	
9		222462001	LEFT GEARBOX ASSY	1	Shown, Breakdown Fig 3-6
		222461001	RIGHT GEARBOX ASSY	1	Breakdown Fig 3-6
10		235718001	BOLT-1/2-13 X 2 GR8 HEX ZINC PLT	8	
11		485025	WASHER-1/2 FLAT-HARDENED-ZINC	16	
12		235731001	NUT-1/2-13 GR8 ZINC PLTD	8	
13		288271001	35LT-3/4-10 X 1 1/2 GR ZCPLT	2	Replaces 235721001
14		57946001	10MX#6JIC ST ADAPTER	4	
15		57940089	HOSE-3/8 X 78 6FS JIC (100R2)	2	Left Shown
		57940279	HOSE-3/8 X 98 6FS JIC 3000 PSI	2	Right Shown
16		57968001	6M O-RING 4M JIC STRAIGHT	2	
17		354012	BOLT-3/8 - 16 X 1 1/4” GR5 HEX	6	
18		230897003	KEY-1/2 X 3/8 X 2”	2	
19		480007	WASHER-3/8 S/T LOCK	6	

Track Chain, Roller & Tightener Assy Fig 3-3r01

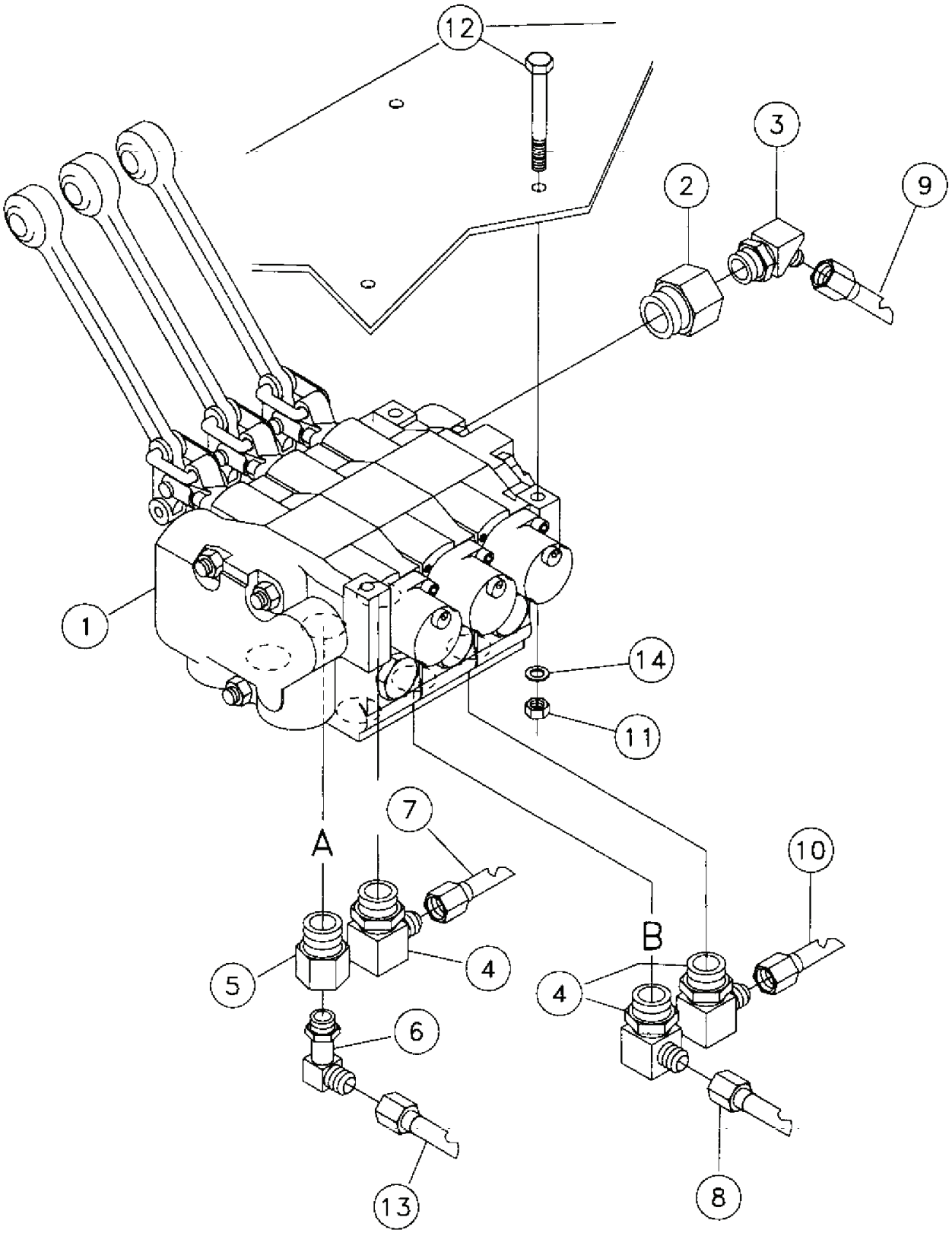
Revised August 1999 due to update in parts list. Changed/added parts marked with *.



Track Chain, Roller & Tightener Assy Fig 3-3r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	August, 1999		Update In Illustration & Parts List
1	*	249180001	TUBE - SPACER	16	
2	*	249022001	BUSHING-STL 1 3/8X1 1/8 - 5 1/8	16	
3		235894003	ROLLER ASSEMBLY-TRACK	14	Inc Three Of Ref No 2
4		598001	ZERK-1/4" NF ST GREASE	16	
5	*	230923001	BOLT-ROLLER ASSY	16	Inc Ref No's 4 & 6
6	*	397001	NUT-3/4-10 GR 8 SLTL	12	
7		230907001	TIGHTENER- BASE PLATE	2	
8		485025	WASHER-1/2 FLAT-HARDENED-ZINC	64	
9		235721001	BOLT-1/2-13X1 1/2 GR8 ZINC PLT	8	
10		238216001	NUT-1 1/2-7 GR8 ZINC YC	4	
11		230906001	CAP- SPRING	2	
12		1803051	SPRING-COMP.1"WX4 1/2OD X 12"	2	
13		230905001	END- SPRING ALIGNMENT CHP	2	
14		230888001	TUBE- TIGHTENER	2	
15		238215001	NUT 1-8 GR8 ZINC YC	2	
16		230840001	STEEL TRACK-35MMX40MM CHAIN	2	
		230840003	SECTION-TRACK (STEEL)	34	Required Per Track
		230840005	PIN-MASTER	1	
		230840007	PIN-TRACK	33	
17		230904001	SLIDER	2	
18		388090	BOLT-1 8UNCX9 GR.8	2	
19		236469001	IDLER ROLLER ASSY	2	Inc Ref No's 20 & 21
20		235970001	BRG-1 1/4 BALL 3LIP SEALW/OCOL	4	
21		235969001	TUBE-IDLER SPACER	2	
22		230841001	RUBBER TRACK-25MMX400M CHAIN	2	
		230841003	SECTION-TRACK (RUBBER)	34	Required Per Track
		230840005	PIN-MASTER	1	
		230840007	PIN-TRACK	33	
23		235888001	PLATE-TRACK WASHER	28	
24	*	235721001	BOLT-ROLLER ASSY. 8"	28	Inc Ref No's 6 & 30
25		235731001	NUT-1/2-13 GR8 ZINC PLTD	28	
26		236468001	UPPER ROLLER ASSY	2	Inc Three Of Ref No 2
27		235717001	VALVE-3 SPOOL CONTROL	4	Breakdown Fig 3-8
28		483005	WASHER-1 1/2X1X14 GA M.B.	AR	P/N Qty Of 1 = 1 Each
29		238892001	WASHER-1" HARDENED FLAT ZY	2	
30	*	283502001	BOLT-ROLLER ASSY. 8"	12	Breakdown Fig 6 & 30

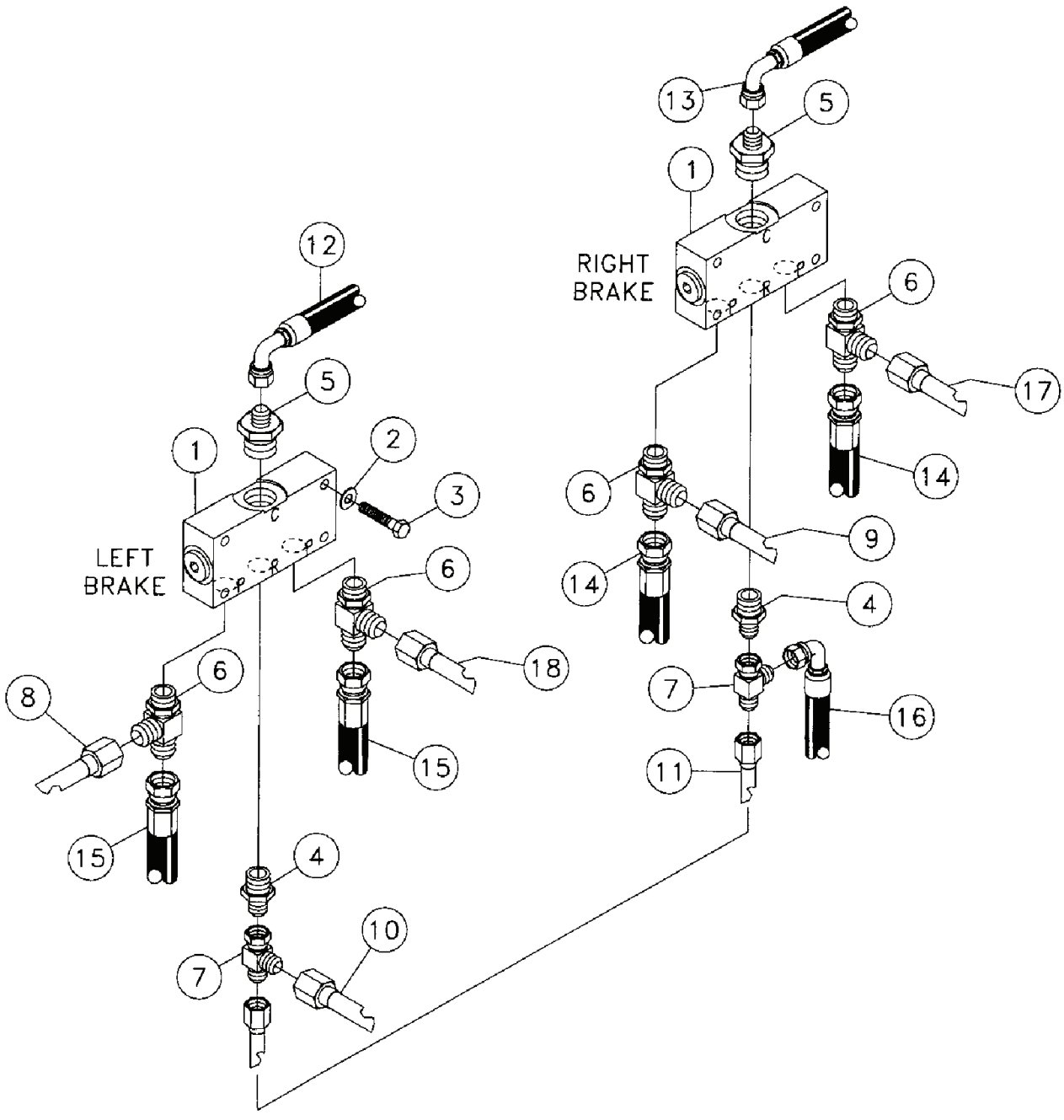
Control Valve Assy - 3 Spool Fig 3-4



Control Valve Assy - 3 Spool Fig 3-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		236457001	VALVE-3 SPOOL CONTROL	1	Breakdown Fig. 3-8
2		81702001	FITTING-12MX8F STR.	1	
3		82932001	FITTING-8MX4M JIC 45DEG ELBOW	1	
4		59401001	6M JICX10M ADJ. 90 DEG.ELBOW	3	
5		57967001	10M-6F O-RING BUSHING	1	
6		65570001	6M X 6M JIC 90 DEGREE LONG	1	
7		235994001	TUBE-3/8 X .049 WALL - 8.80	1	
8		235992001	TUBE-3/8X.049 WALL - 13.60	1	
9		235998001	TUBE-1/4 X .035 WALL - 12.97	1	
10		235995001	TUBE-3/8 X .049 WALL - 11.49	1	
11		235741001	NUT-5/16-18 GR8 ZINC PLTD	3	
12		238212001	BOLT-5/16-18 X 3” GR 8 HEX YZI	3	
13		235993001	TUBE-3/8 X .049 WALL - 9.62	1	
14		235714001	WASHER-5/16 SAE HARD ZINC PLTD	3	

Brake Valve Assy Fig 3-5



Brake Valve Assy Fig 3-5

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		225190001	VALVE-SHUTTLE	2	
2		235716001	WASHER-1/4 SAE HARD ZINC PLTD	4	
3		250008001	BOLT 1/4-20 X 1 1/4 ZINC PL	4	
4		57968001	6M O-RING 4M JIC STRAIGHT	2	
5		53657001	FITTING-8M OR X 4M JIC ST.	2	
6		68774001	FITTING-6MX6M JIC (RUN)X6M JIC	4	
7		60248001	TEE-4M JICX4M JICX4FS JIC	2	
8		235995001	TUBE-3/8 X .049 WALL - 11.49	1	
9		235992001	TUBE-3/8X.049 WALL - 13.60	1	
10		235998001	TUBE-1/4 X .035 WALL - 12.97	1	
11		235997001	TUBE-1/4 X .035 WALL - 8.79	1	
12		53843735	HOSE-1/4X66 4FSJICST/90D 3000#	1	
13		53843737	HOSE-1/4X76 4FSJICST/90D 3000#	1	
14		57940279	HOSE-3/8X98 6FS JIC 3000 PSI	2	
15		57940089	HOSE-3/8X78 6FS JIC (100R2)	2	
16		236449001	HOSE-1/4X52 4FSJIC ST/90 3000	1	
17		235993001	TUBE-3/8 X .049 WALL - 9.62	1	
18		235994001	TUBE-3/8 X .049 WALL - 8.80	1	

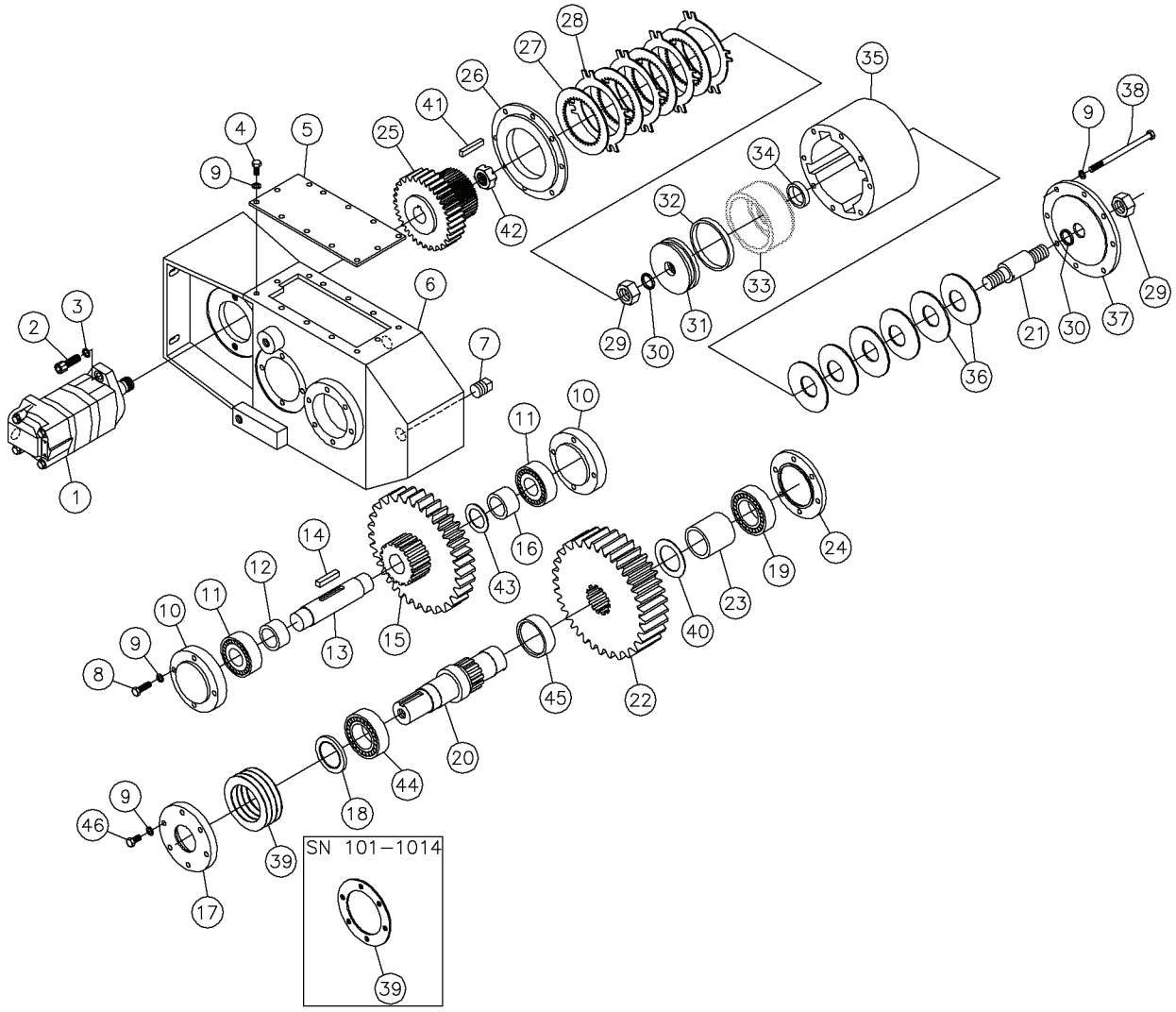
Track Drive Gearbox Components (Go To Figure 3-12) Fig 3-6r06

FIGURE DELETED DUE TO UPDATE

Track Drive Gearbox Components (Go To Figure 3-12) Fig 3-6r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2002		Update In Illustration & Parts List.
			Figure 3-6 Has Been Replaced By Figure 3-12		

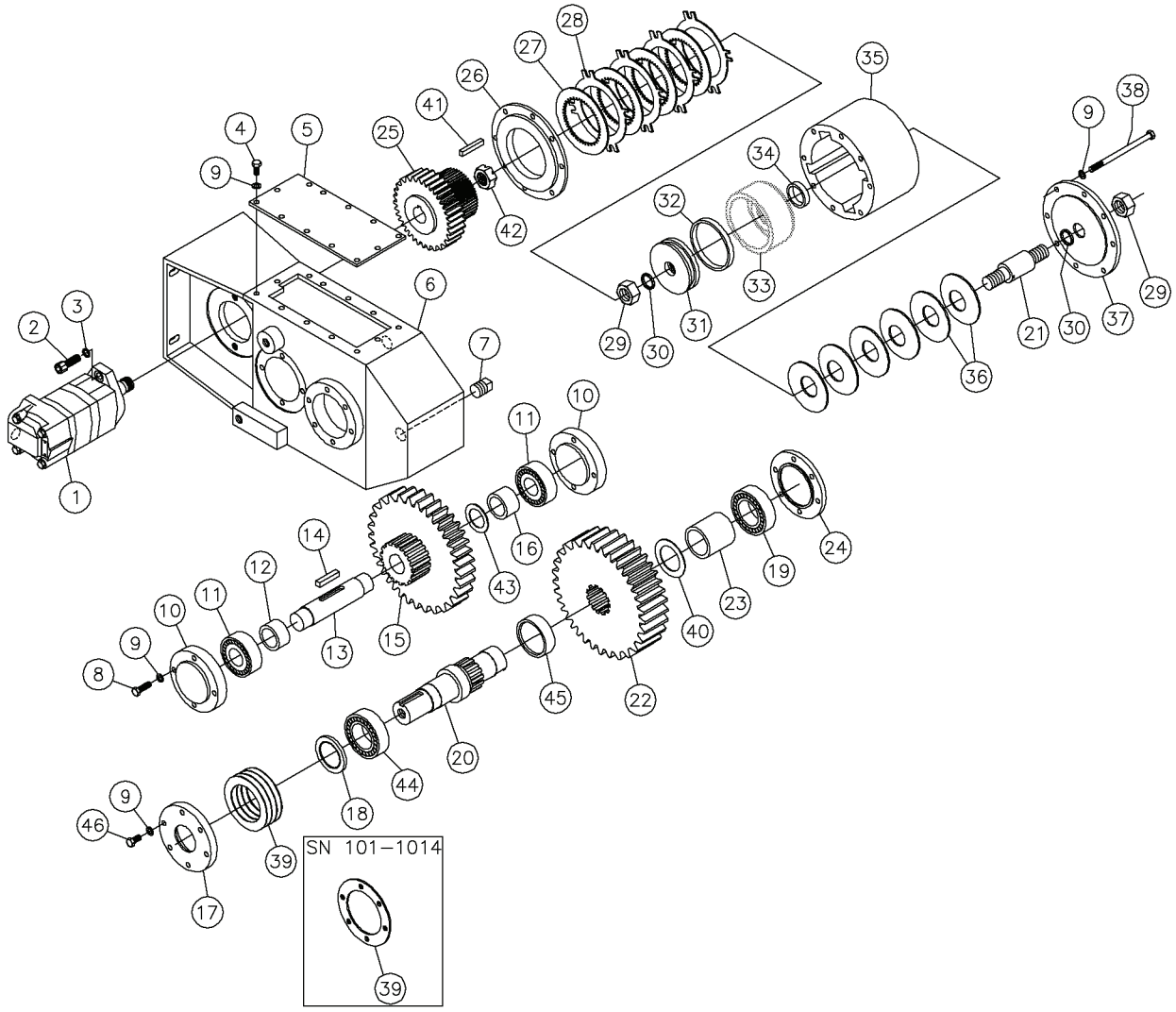
Track Drive Gearbox Components (S/N 101 - 1772) Fig 3-6r05



Track Drive Gearbox Components (S/N 101 - 1772) Fig 3-6r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		222474001	MOTOR HYD.-2000 SERIES 24CID	1	Breakdown Fig 3-7
2		58726001	SCREW-1/2 X 13 X 1 1/4 SHC	2	
3		480011	WASHER-1/2 S/T LOCK	2	
4		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	18	
5		225103001	COVER-GEAR BOX	1	
6		222459001	GEARBOX-LEFT TRACK	1	Shown
		222458001	GEARBOX-RIGHT TRACK	1	
7		732009	PLUG-3/4” PIPE BLACK STEEL	2	
8		235736001	BOLT-3/8-16 X 1 1/4 ZINC PLTD	8	
9		235713001	WASHER-3/8 SAE HARD ZINC PLTD	32	
10		212840001	HOUSING-BEARING	2	
11		224557001	BEARING-ROLLER 35M BORE	2	
12		225075001	SPACER-IDLER SHAFT	1	
13		225070001	SHAFT-IDLER	1	
14		579011	HKEYS-3/8 X 3/8 X 2	1	
15		225105001	GEAR-18T/54T	1	
16		225074001	SPACER-TUBE	1	
17		225072001	PLATE-SEAL HOLDER	1	
18	*	294131001	COVER - APLEX PISTON WASH	1	
19		1706001	BRG.-22210 LB/C3 50MM SPH.ROL	1	
20		240844001	SHAFT-TRACK OUTPUT	1	
21		225111001	ROD-CYLINDER	1	
22		235269001	GEAR-54 TOOTH	1	
23		225076001	SPACER-SHAFT	1	
24		225071001	PLATE-BRG. CAP	1	
25		225106001	GEAR-33T BRAKE	1	
26		225098001	PLATE-BRAKE MT	1	
27		219132001	DISC-BRAKE ROTOR	4	
28		219133001	PLATE-BRAKE STATOR	4	
29		5460001	NUT-1-14 NF GR 8 SLTL	2	
			Continued On Next Page		

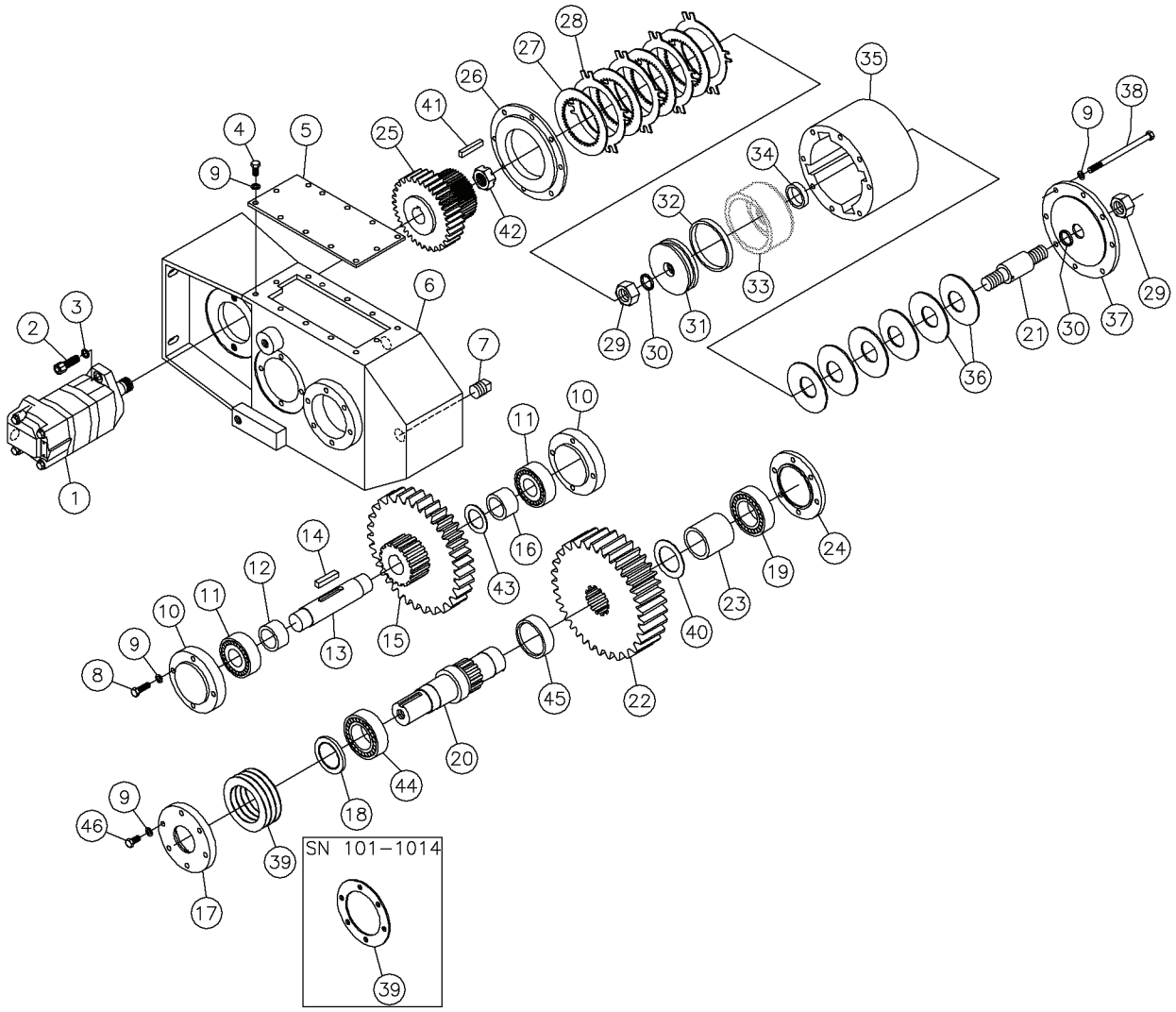
Track Drive Gearbox Components (S/N 101 - 1772)(Continued) Fig 3-6r05



Track Drive Gearbox Components (S/N 101 - 1772)(Continued) Fig 3-6r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
30		793017	O-RING	2	
31		225107001	PISTON	1	
32		58139001	UNI-RING	1	
33		225110001	BARREL-BRAKE CYLINDER	1	
34		57301001	ROD SEAL	1	
35		225099001	TUBE-BRAKE MOUNT	1	
36		222486001	WASHER-BELLEVILLE 940D X 1.61ID	6	
37		225113001	PLATE-CYLINDER ROD	1	
38		238214001	BOLT-3/8-16 X 6” GR8 HEX Y/ZINC	8	
39		235873001	PLATE-SPACER (101-1014)	1	S/N 101 - 1014
		276480001	SPACER SET-TRACK BOX SHAFT	1	Set Of 4 S/N 1015 -
40		483017	WASHER-3 X 2 X 14 GA. M.B.	1	
41		218249003	KEY-SHAFT	1	
42		2876003	NUT 1/20 CASTLE 4775W	1	
43		483009	WASHER-2 1/4 X 1 1/2 X 14 1/2/14 GA M.B.	1	
44		1706003	BRG-2212 LB/C3 60MM	1	
45		287504001	SPACER-GEAR	1	S/N 1015 -
46		235727001	BOLT-3/8-16 X 1 GR8 HEX ZNC PLT	6	
		249178001	LEFT GEARBOX ASSY		Includes All Items in Figure 3-6
		249179001	RIGHT GEARBOX ASSY		Includes All Items in Figure 3-6

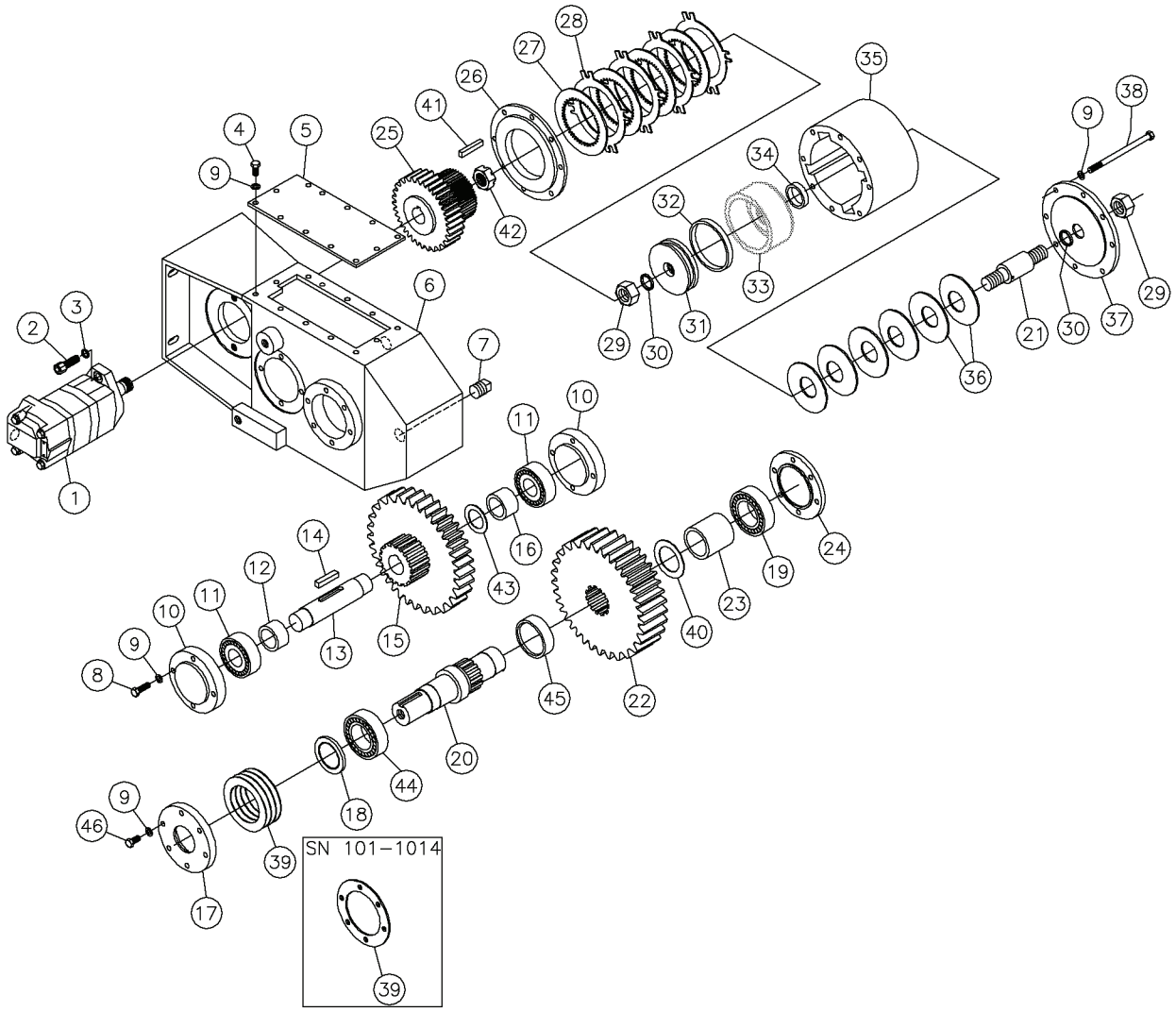
Track Drive Gearbox Components (S/N 101 - 1772) Fig 3-6r04



Track Drive Gearbox Components (S/N 101 - 1772) Fig 3-6r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1	*	222474001	*MOTOR HYD.-2000 SERIES 24CID	1	Breakdown Fig 3-7
2		58726001	SCREW-1/2 X 13 X 1 1/4 SHC	2	
3		480011	WASHER-1/2 S/T LOCK	2	
4		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	18	
5		225103001	COVER-GEAR BOX	1	
6		222459001	GEARBOX-LEFT TRACK	1	Shown
		222458001	GEARBOX-RIGHT TRACK	1	
7		732009	PLUG-3/4” PIPE BLACK STEEL	2	
8		235736001	BOLT-3/8-16 X 1 1/4 ZINC PLTD	8	
9		235713001	WASHER-3/8 SAE HARD ZINC PLTD	32	
10		212840001	HOUSING-BEARING	2	
11		224557001	BEARING-ROLLER 35M BORE	2	
12		225075001	SPACER-IDLER SHAFT	1	
13		225070001	SHAFT-IDLER	1	
14		579011	HKEYS-3/8 X 3/8 X 2	1	
15		225105001	GEAR-18T/54T	1	
16		225074001	SPACER-TUBE	1	
17		225072001	PLATE-SEAL HOLDER	1	
18		230781001	SEAL-C/R 19643	1	
19		1706001	BRG.-22210 LB/C3 50MM SPH.ROL	1	
20		240844001	SHAFT-TRACK OUTPUT	1	
21		225111001	ROD-CYLINDER	1	
22		235269001	GEAR-54 TOOTH	1	
23		225076001	SPACER-SHAFT	1	
24		225071001	PLATE-BRG. CAP	1	
25		225106001	GEAR-33T BRAKE	1	
26		225098001	PLATE-BRAKE MT	1	
27		219132001	DISC-BRAKE ROTOR	4	
28		219133001	PLATE-BRAKE STATOR	4	
29		5460001	NUT-1-14 NF GR 8 SLTL	2	

Track Drive Gearbox Components (S/N 101 - 1772)(Continued) Fig 3-6r04



Track Drive Gearbox Components (S/N 101 - 1772)(Continued) Fig 3-6r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
30		793017	O-RING	2	
31		225107001	PISTON	1	
32		58139001	UNI-RING	1	
33		225110001	BARREL-BRAKE CYLINDER	1	
34		57301001	ROD SEAL	1	
35		225099001	TUBE-BRAKE MOUNT	1	
36		222486001	WASHER-BELLEVILLE 940D X 1.61ID	6	
37		225113001	PLATE-CYLINDER ROD	1	
38		238214001	BOLT-3/8-16 X 6” GR8 HEX Y/ZINC	8	
39		235873001	PLATE-SPACER (101-1014)	1	S/N 101 - 1014
		276480001	SPACER SET-TRACK BOX SHAFT	1	Set Of 4 S/N 1015 -
40		483017	WASHER-3 X 2 X 14 GA. M.B.	1	
41		218249003	KEY-SHAFT	1	
42		2876003	NUT 1/20 CASTLE 4775W	1	
43		483009	WASHER-2 1/4 X 1 1/2 X 14 1/2/14 GA M.B.	1	
44		1706003	BRG-2212 LB/C3 60MM	1	
45		287504001	SPACER-GEAR	1	S/N 1015 -
46		235727001	BOLT-3/8-16 X 1 GR8 HEX ZNC PLT	6	
		249178001	LEFT GEARBOX ASSY		Includes All Items in Figure 3-6
		249179001	RIGHT GEARBOX ASSY		Includes All Items in Figure 3-6

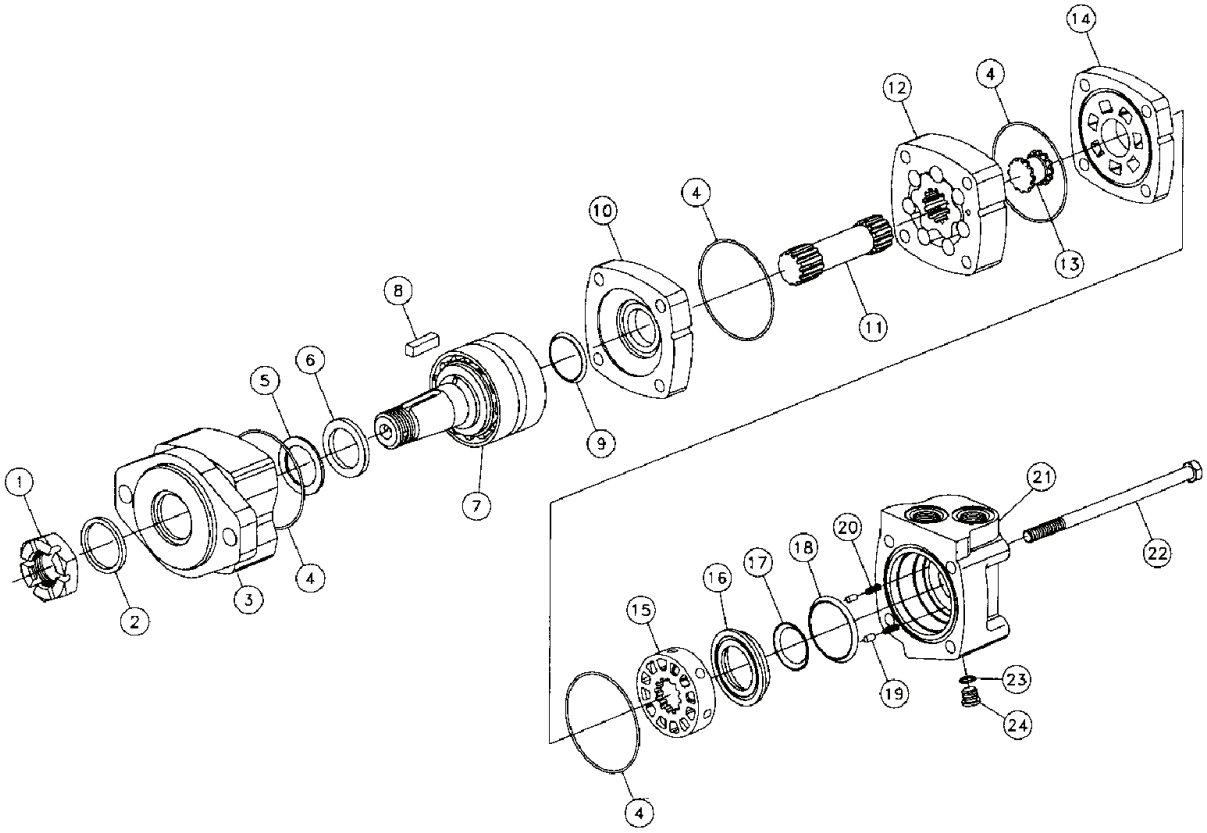
Hydraulic Motor Components (Go To Figure 3-14) Fig 3-7r02

FIGURE DELETED DUE TO UPDATE

Hydraulic Motor Components (Go To Figure 3-14) Fig 3-7r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2002		Update In Illustration & Parts List.
			Figure 3-7 Has Been Replaced By Figure 3-14		

Hydraulic Motor Components (S/N 101 - 1772) Fig 3-7r01

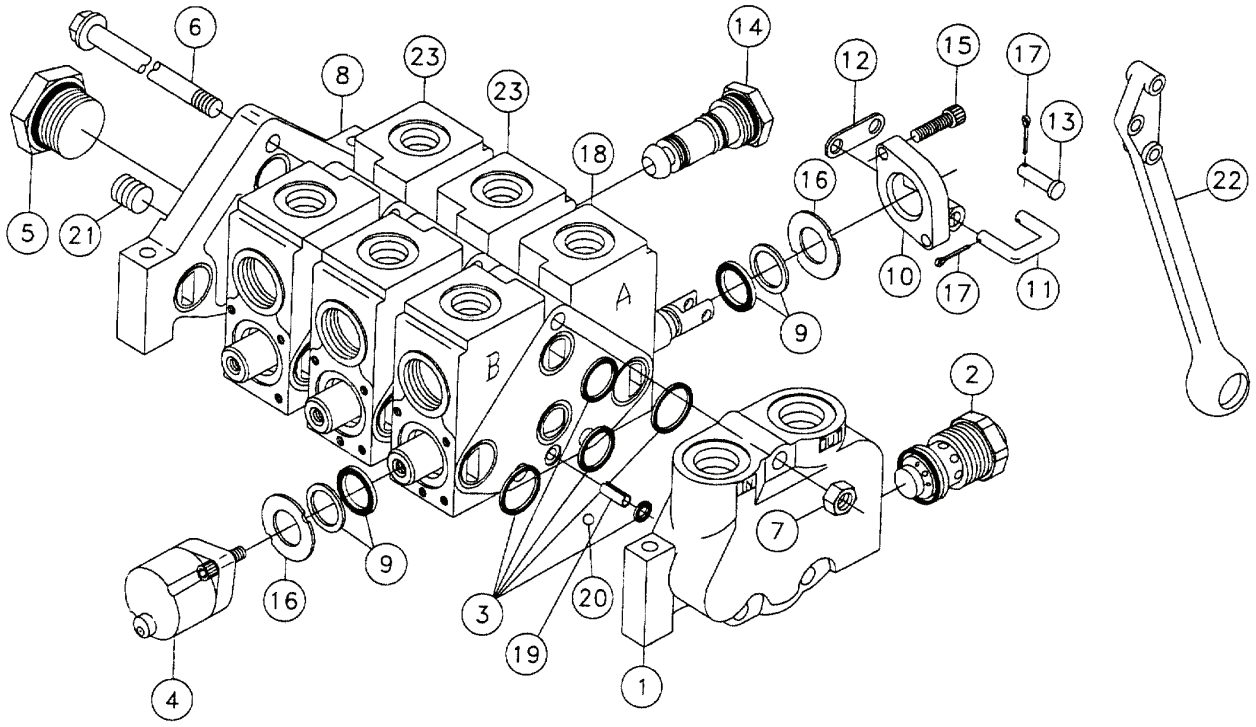


Hydraulic Motor Components (S/N 101 - 1772) Fig 3-7r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Heading
1		230588003	NUT-SLOTTED	1	
2		770071	SEAL-DUST	1	
3		770073	HOUSING-BEARING	1	
4		770007	SEAL-O RING	4	
5		770009	WASHER-BACKUP	1	
6		770075	SEAL-SHAFT	1	
7		209107005	SHAFT & BEARING KIT	1	Includes The Following Parts
		NSS	SHAFT-OUTPUT	1	
		NSS	CONE-BEARING	2	
		NSS	CUP-BEARING	2	
		NSS	SPACER-BEARING	1	
		NSS	RING-RETAINING	1	
8		218249003	KEY-SHAFT	1	
9		770017	SEAL-SHAFT FACE	1	
10		770079	PLATE-WEAR	1	
11		70020003	DRIVE	1	
12		70020005	GEROLER ASSY	1	
13		774011	DRIVE-VALVE 8433	1	
14		770085	PLATE-VALVE # 21622	1	
15		770087	VALVE- # 21466	1	
16		770089	PLATE-BALANCE #8915	1	
17		770057	SEAL-FACE INNER 9049-1	1	
18		770091	SEAL-FACE OUTER #9135-2	1	
19		770037	PIN-14351	2	
20		770039	SPRING-7383	2	
21		770093	HOUSING-(SAE 10 PORTS)#21564-1	1	
22		774017	BOLT-14384-014	4	
		70020007	BOLT	4	
23		4485023	O-RING-250003-904	1	
24		4485019	PLUG-9071-3	1	
		4485021	PLUG ASSY	1	Inc Ref No's 23 & 24
		770097	REPAIR KIT		Inc Ref No's 2, 4-6, 9, 17, 18 & 23
		230859001	MOTOR-HYD.		Includes All Items In Figure
		NSS	Not Sold Separately		
		Note:	When Ordering Parts Include		Product #104-1226-006 With Order

Control Valve Components - 3 Spool Fig 3-8r01

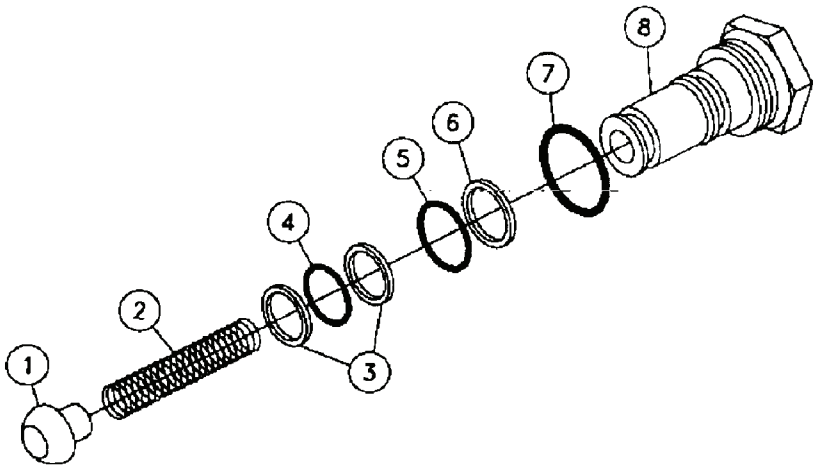
Revised November 1999 due to update in parts list. Changed part marked with *.



Control Valve Components - 3 Spool Fig 3-8r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Illustration & Parts List
1		228113003	LEFT COVER PLATE COMPLETE	1	Inc Ref No 2
2		228113005	WH MAIN RELIEF (3500 PSI)	1	
3		87390001	REPAIR KIT-LOAD SENSING SECT.	4	
4		6149005	POSITIONER-STD.	3	Breakdown Fig 3-10
5		3152011	PLUG SAE 12	1	Include O-Ring
		3152013	SEAL-O-RING	1	
6		16358005	STUD KIT-3 SPOOL	1	Inc Ref No 7
7		446001	NUT-3/8 NF HEX	3	
8		102976001	COVER ASSY-RIGHT LOAD SEN.	1	Inc One Of Ref No's 3, 5 & 21
9		3147077	REPAIR KIT	3	
10		3147029	BRACKET	3	
11		4333003	LINK-	3	
12		4333005	PLATE-LINK	3	
13		2110003	PIN-CLEVIS 1/4X7/8 - 47/64 UL	3	
14		3147035	PLUG-LOAD CHECK STEEL	6	Breakdown Fig 3-9
15		79704001	SCREW-1/4-20X7/8 SOC HD SELFLK	6	
16		3147081	RETAIN-PLT WASH	6	
17		510035	PIN-3/32 X 1/2 COTTER	9	
18		224397003	BODY ASSEMBLY-CENTER SECTION	1	Inc One Of Ref No's 3, 4, 9-11, 13, 19, 20 & 22, Inc Two Of Ref No's 14-16 & IncThree Ref No 17
19		87397001	PIN-SPRING	1	
20		87398001	BALL	1	
21		3213017	PLUG-RELIEF 3/8"	1	
22	*	280625001	HANDLE-W/ ZINC PLATE & BLACK PLASTIC COAT	3	
23		236457003	BODY ASSY-CNTR SEC W/FREE FLOW	2	Inc One Of Ref No's 3, 4, 9-11, 13, 19, 20 & 22, Inc Two Of Ref No's 14-16 & IncThree Ref No 17
		236457001	VALVE-3 SPOOL CONTROL		Includes All Items In Figure

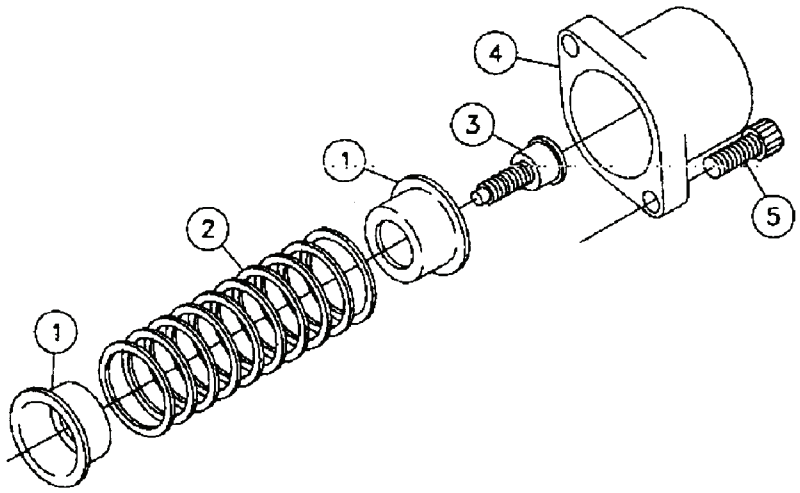
Load Check Plug Components Fig 3-9



Load Check Plug Components Fig 3-9

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		3128009	POPPET-CHECK	1	
2		3147041	SPRING-CHECK	1	
3		NSS	WASHER-BACKUP (INNER)	2	
4		NSS	O-RING	1	
5		NSS	O-RING (OUTER)	1	
6		NSS	WASHER-BACKUP (OUTER)	1	
7		NSS	O-RING	1	
8		3147043	PLUG-LIFT CHECK	1	
		3147035	PLUG-LOAD CHECK STEEL		Inc Ref No's 1-8
		3147037	REPAIR KIT		Inc Ref No's 3-7

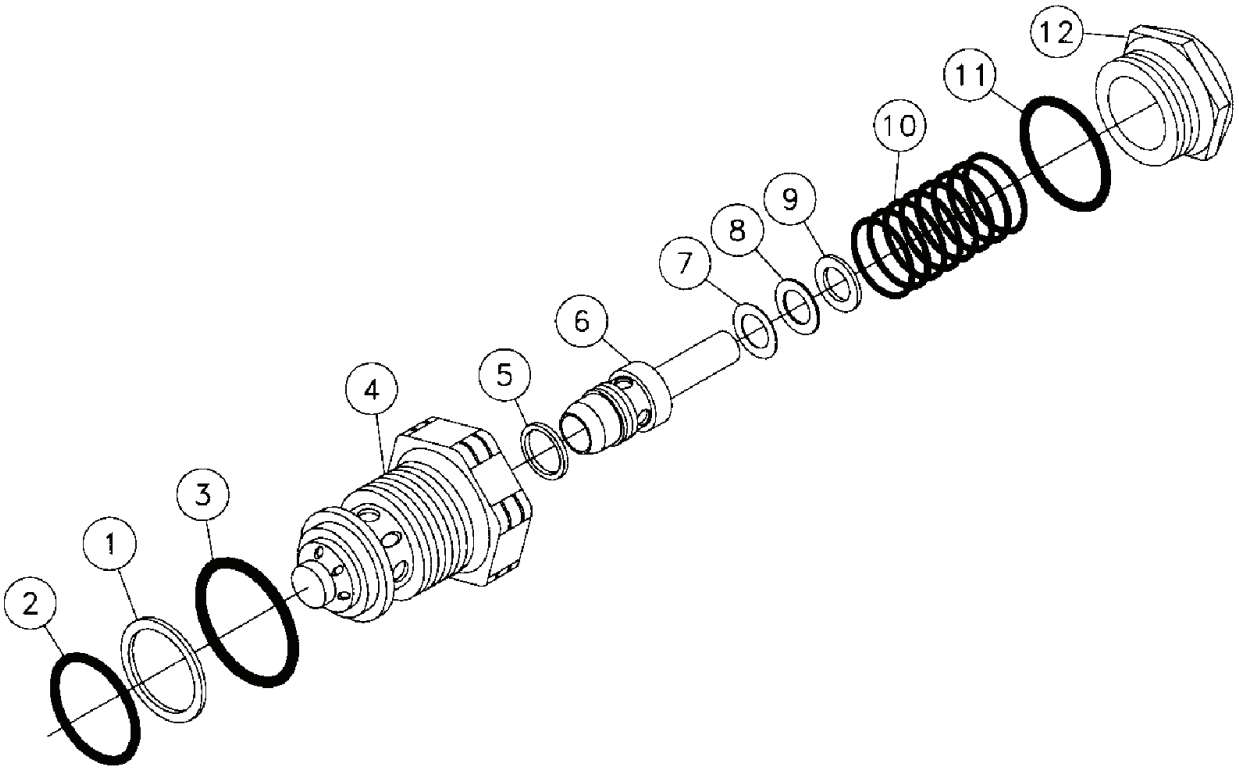
Standard Spool Positioner Components Fig 3-10



Standard Spool Positioner Components Fig 3-10

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		3149005	COLLAR-SPRING	2	
2		6149057	SPRING-RETURN	1	
3		3149013	COLLAR-SPOOL	1	
4		6149043	BONNET	1	
5		79704001	SCREW-1/4-20X7/8 SOC HD SELFLK	2	
		6149005	POSITIONER-STD.		Inc Ref No's1-5

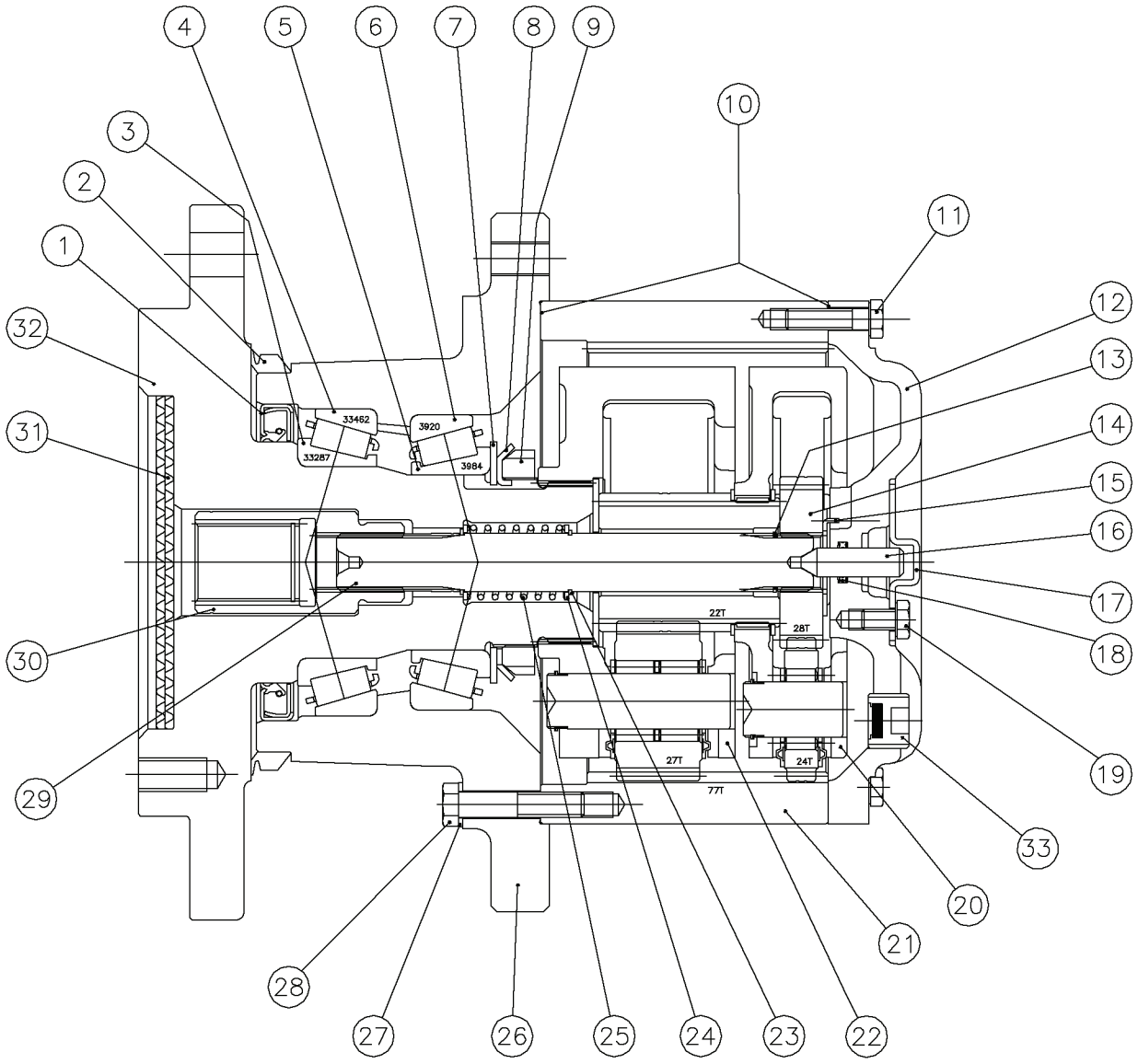
WH Main Relief Components Fig 3-11



WH Main Relief Components Fig 3-11

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		NSS	RING-BACKUP	1	
2		NSS	SEAL-O-RING	1	
3		NSS	SEAL-O-RING	1	
4		15844009	BODY-WH RELIEF	1	
5		NSS	RING-PISTON	1	
6		NSS	POPPET	1	
7		208019	SHIM-.010	AR	P/N Qty Of 1 = 1 Each
8		208017	SHIM-.020	AR	P/N Qty Of 1 = 1 Each
9		208015	SHIM-.040	AR	P/N Qty Of 1 = 1 Each
10		228113007	HOSE-1/4X66 4FSJICST/90D 3000#	1	Left Side
11		NSS	SEAL-O-RING	1	
12		3147027	HOSE-1/4X76 4FSJICST/90D 3000#	1	Right Side
		3147011	SERVICE KIT		Inc Ref No's 5 & 6
		15844007	REPAIR KIT		Inc Ref No's 1, 3 & 11
		228113005	WH MAIN RELIEF (3500 PSI)		Includes All Items In Figure

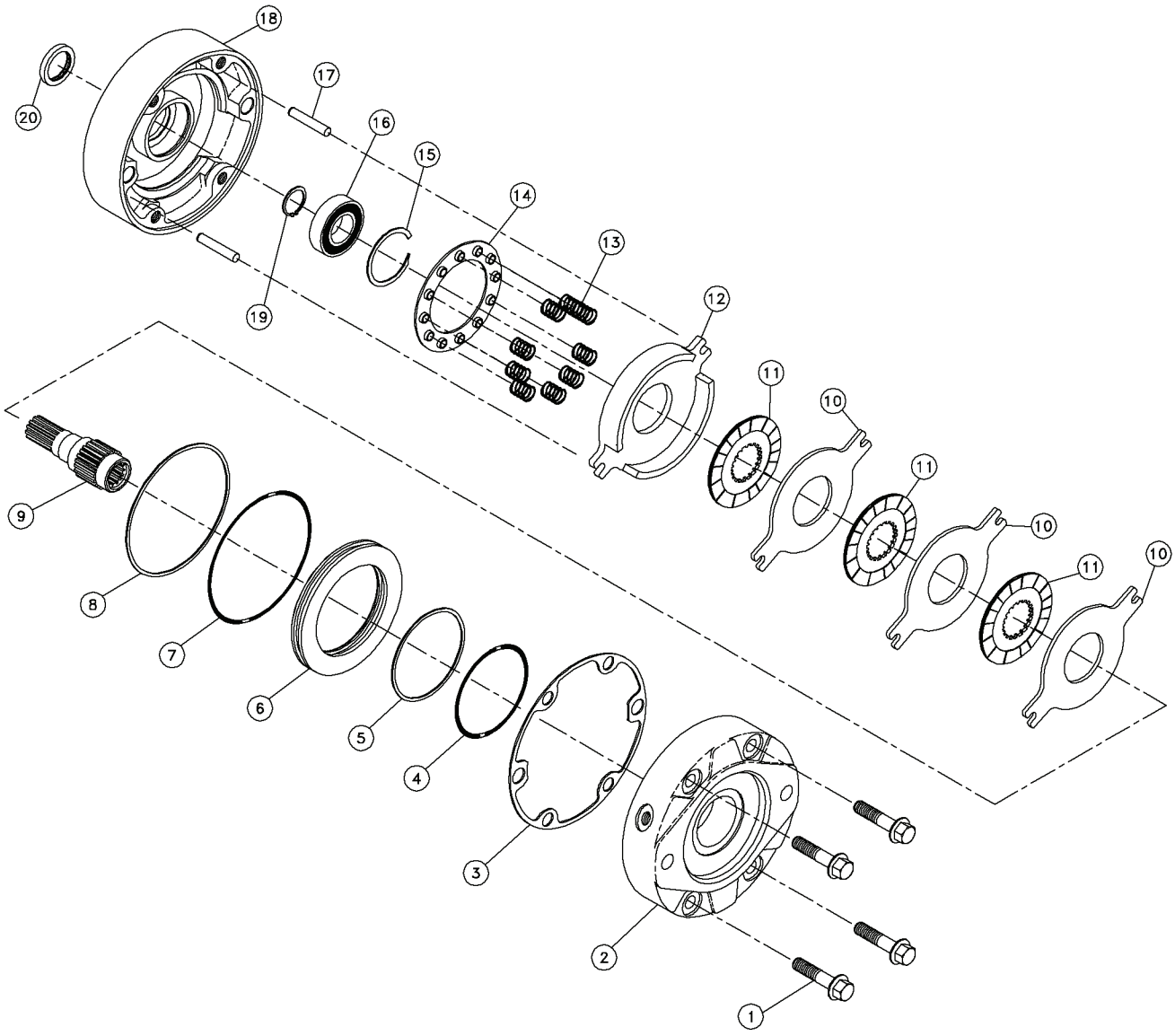
Planetary Gearbox Components (S/N 1773 -) Fig 3-12



Planetary Gearbox Components (S/N 1773 -) Fig 3-12

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Addition To Manual
1		244405057	SEAL - OIL	1	
2		244405055	SEAL - V RING	1	
3		244405053	BEARING - CONE	1	
4		244405051	BEARING - CUP	1	
5		244405049	BEARING - CONE	1	
6		244405047	BEARING - CUP	1	
7		244405045	WASHER - THRUST	1	
8		244405043	WASHER - LOCK	1	
9		244405041	NUT - LOCK	1	
10		244405039	COMPOUND - SEALING	2	
11		296253338	BOLT - 5/16 - 18 X 1 1/4	8	
12		244405037	COVER	1	
13		244405035	RING - RETAINING	1	
14		296253332	GEAR - SUN	1	
15		244405031	WASHER - THRUST	1	
16		244405029	PLUNGER	1	
17		244405027	COVER - DISENGAGE	1	
18		244405025	O-RING	1	
19		244405023	BOLT - HEX HEAD	2	
20		296253329	ASSY CARRIER (PRI)	1	
21		244405019	GEAR - RING	1	
22		296253330	ASSY CARRIED (SEC)	1	
23		244405015	RING - RETAINING	2	
24		296253336	WASHER - FLAT	2	
25		244405011	SPRING - DISENGAGE	1	
26		244405009	HUB	1	
27		221652013	WASHER-FLAT	18	
28		296253337	BOLT - HH 3/8-24 1 7/8	18	
29		296253331	SHAFT - INPUT	1	
30		296253334	COUPLING	1	
31		296253333	SPINDLE	1	
32		296253335	PLUG - PIPE	1	
		287581001	GEARBOX - PLANETARY - 7WB15190ZX		Includes All Items In Figure

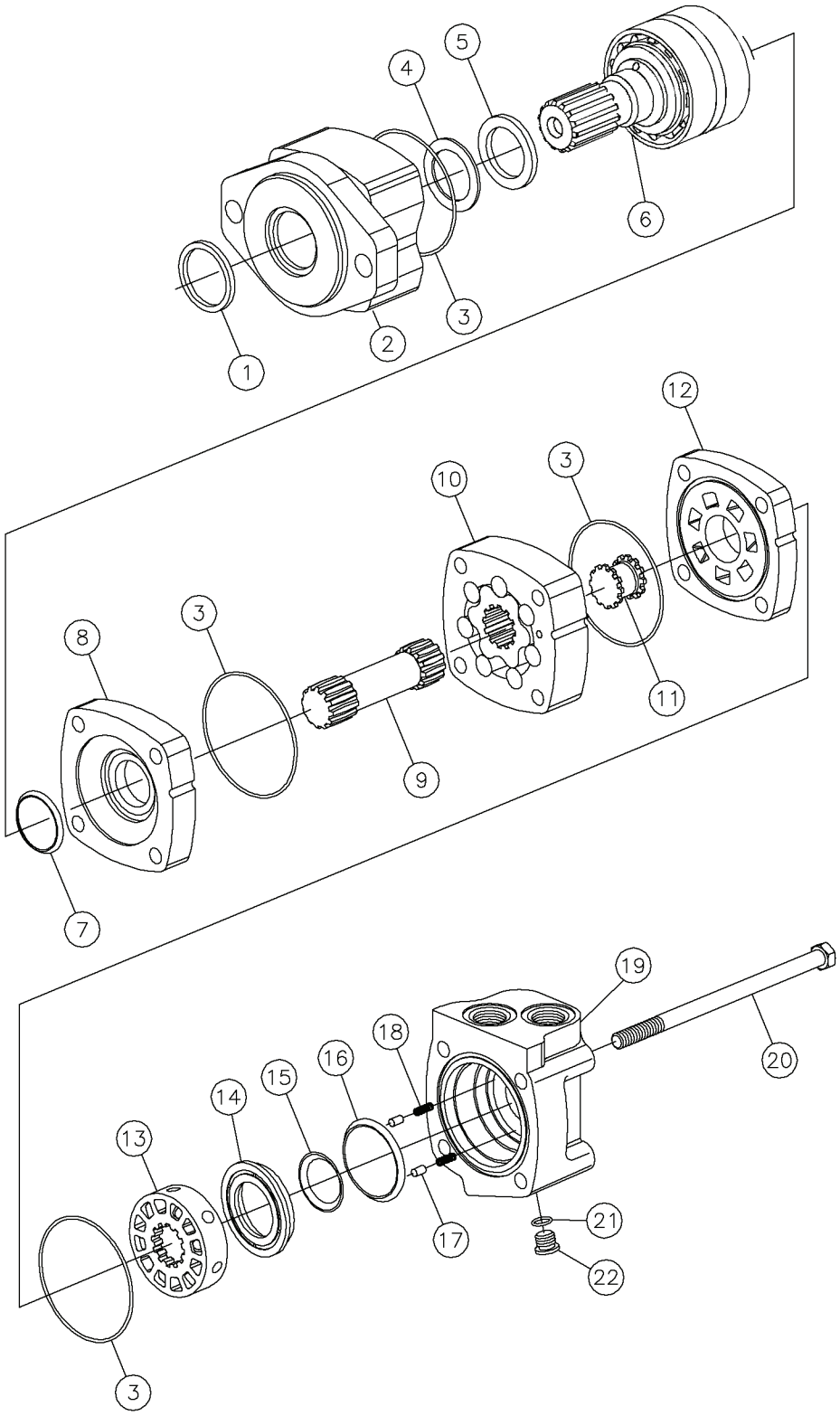
Park Brake Components (S/N 1773 -) Fig 3-13



Park Brake Components (S/N 1773 -) Fig 3-13

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Addition To Manual
1		NSS	BOLT	4	
2		NSS	PLATE PRESSURE	1	
3		NSS	CASE SEAL	1	
4		NSS	O-RING	1	
5		NSS	MACK-UP RING	1	
6		NSS	PISTON	1	
7		NSS	O-RING	1	
8		NSS	BACK-UP RING	1	
9		NSS	SHAFT	1	
10		NSS	STATOR DISCS	3	
11		NSS	ROTOR DISCS	3	
12		NSS	PLATE PRESSURE	1	
13		NSS	SPRING	8	
14		NSS	SPRING RETAINER	1	
15		NSS	RETAINING RING	1	
16		NSS	BEARING	1	
17		NSS	DOWEL PINS	2	
18		NSS	COVER	1	
19		NSS	RETAINING RING	1	
20		NSS	OIL SEAL	1	
		287582001	BRAKE - TRACK DRIVE PARK		Includes All Items In Figure
		296253340	LINING KIT		Inc Ref No's 3, 10, 11 & 12
		296253341	BEARING KIT		Inc Ref No's 3, 15, 16, 19 & 20
		296253342	O-RING KIT		Inc Ref No's 3, 4, 5, 7, 8 & 20
		NSS			

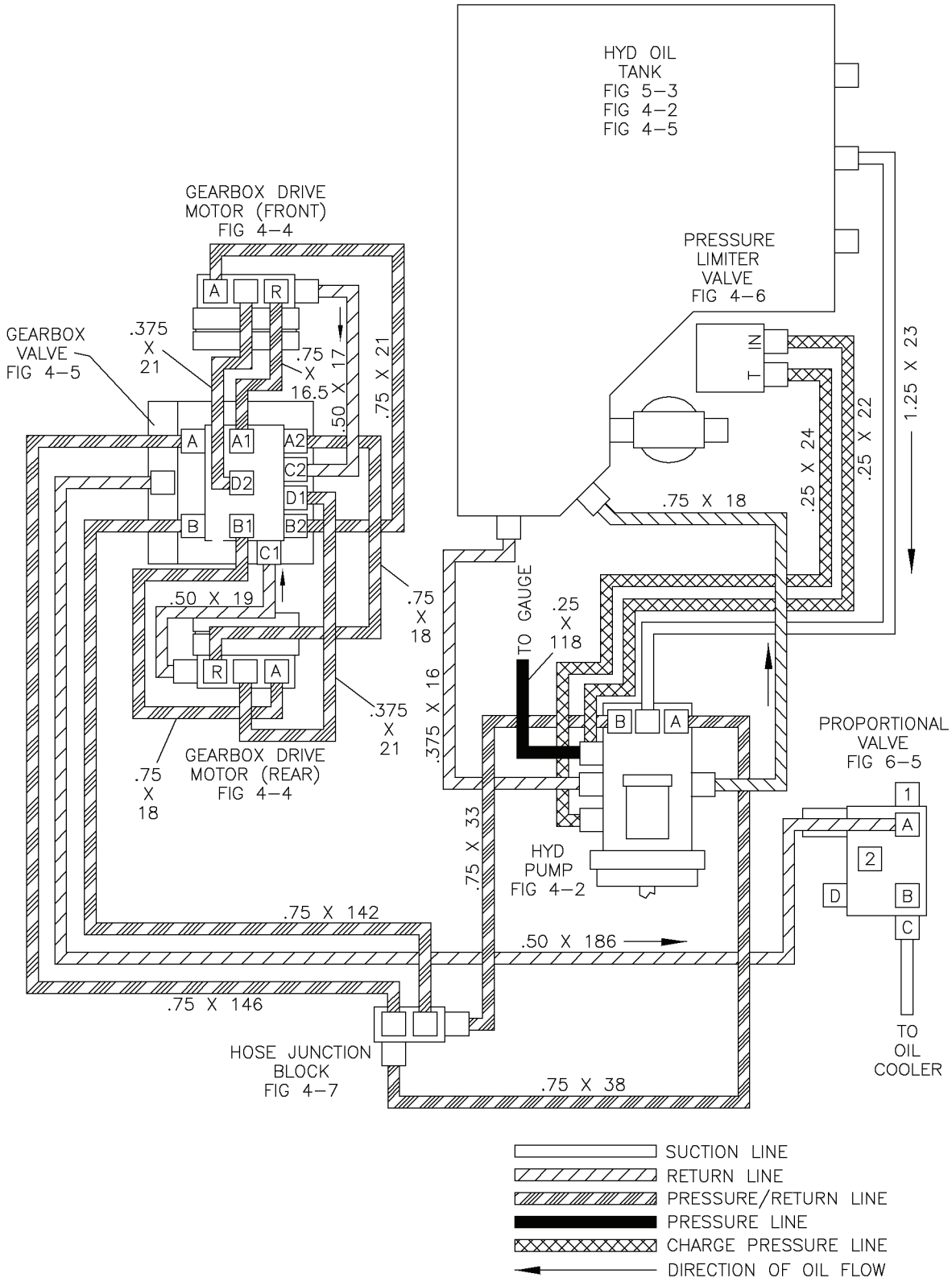
Hydraulic Motor Components (S/N 1773 -) Fig 3-14



Hydraulic Motor Components (S/N 1773 -) Fig 3-14

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Addition To Manual
1		770071	SEAL-DUST # 9121-1	1	
2		770073	HOUSING-BEARING # 21578-4	1	
3		770007	SEAL-O RING 9022-6	4	
4		61062001	SHAFT SEAL-9057-009	1	
5		770009	WASHER-BACKUP 7382	1	
6		206469001	SHAFT&BEARING KIT/1 1/4SPLINED	1	Includes The Following Parts
		NSS	SHAFT-OUTPUT	1	
		NSS	CONE-BEARING	2	
		NSS	CUP-BEARING	2	
		NSS	SPACER-BEARING	1	
		NSS	RING-RETAINING	1	
8		770079	PLATE-WEAR # 21623	1	
9		78009007	DRIVE	1	
10		78009009	GEROLER ASSY	1	
11		774011	DRIVE-VALVE 8433	1	
12		770085	PLATE-VALVE # 21622	1	
13		770087	VALVE- # 21466	1	
14		770089	PLATE-BALANCE #8915	1	
15		770057	SEAL-FACE INNER 9049-1	1	
16		770091	SEAL-FACE OUTER #9135-2	1	
17		770037	PIN-14351	2	
18		770039	SPRING-7383	2	
19		770093	HOUSING-(SAE 10 PORTS)#21564-1	1	
20		296253339	BOLT	4	
21		4485023	O-RING-250003-904	1	
22		4485019	PLUG-9071-3	1	
		4485021	PLUG ASSY-9072-3	1	Inc Ref No's 21 & 22
		770097	REPAIR KIT- #61258		Inc Ref No's 1, 3, 5, 7, 15, 16 & 21
		287584001	MOTOR - EATON 15T 6.2 CID - 2K		Includes All Items In Figure
		NSS	Not Sold Separately		

Hyd Components Location Diagram - Rotation Drive Fig 4-1r02

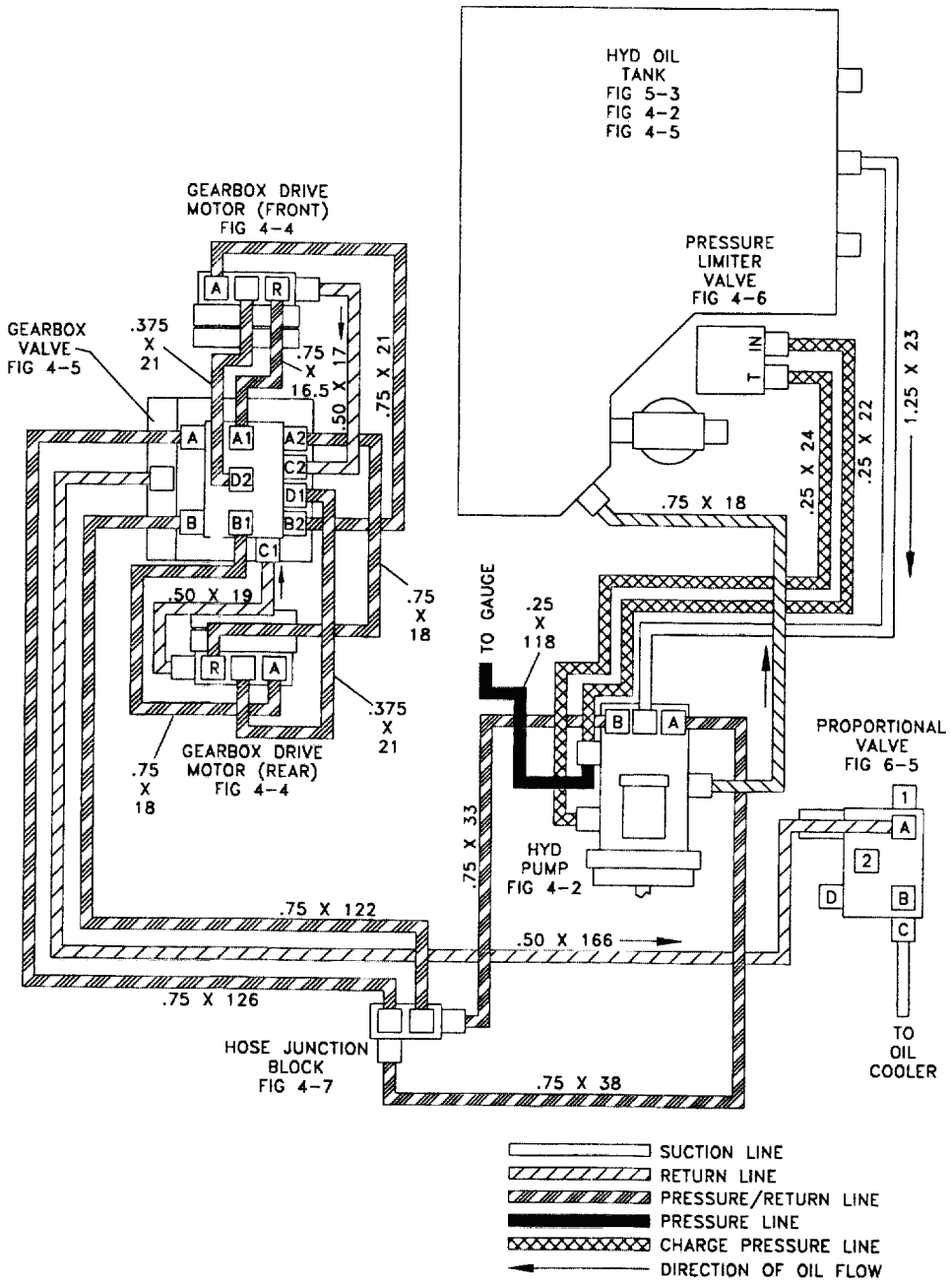


Hyd Components Location Diagram - Rotation Drive Fig 4-1r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration.

Hyd Components Location Diagram - Rotation Drive Fig 4-1r01

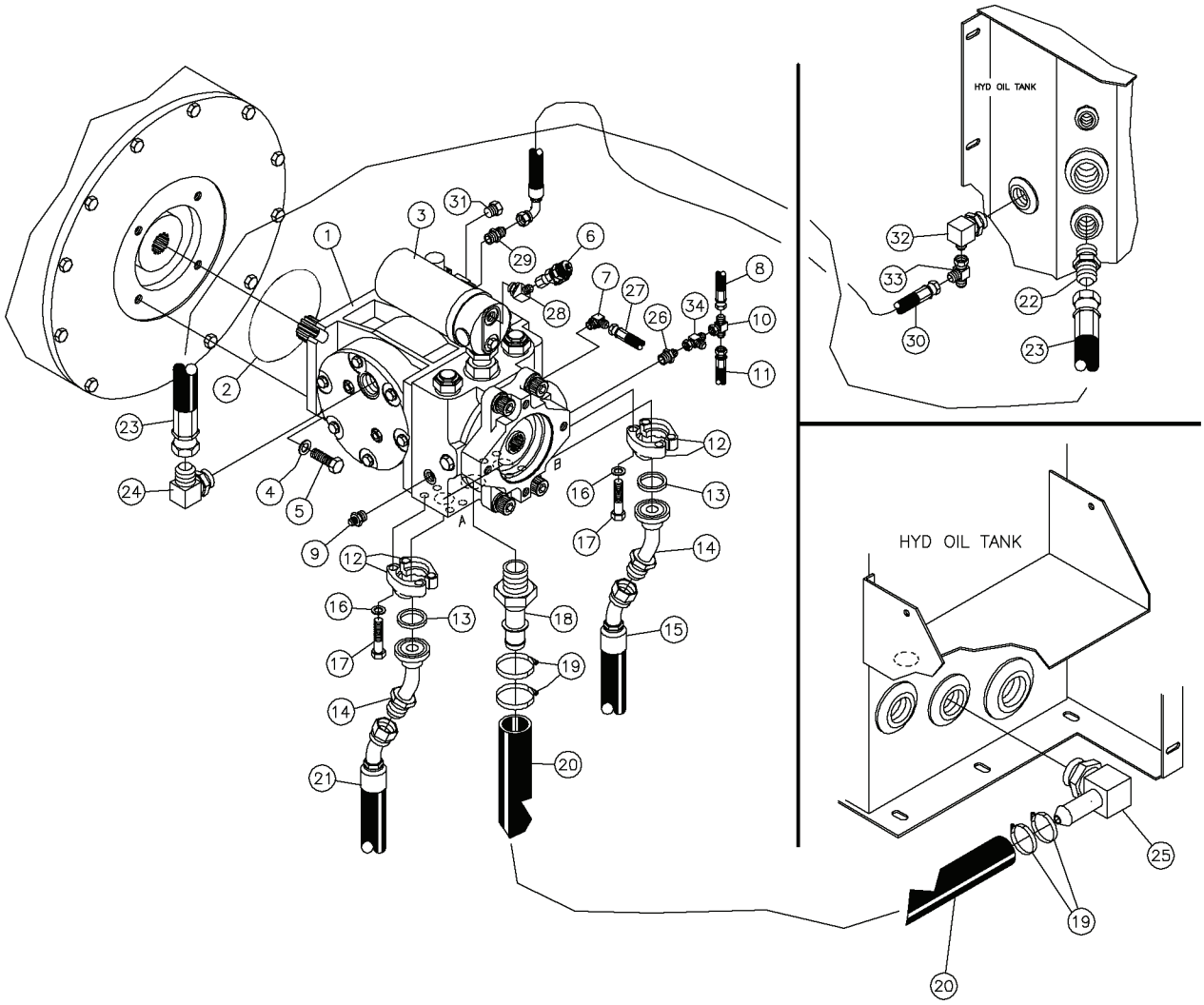
Revised February 2000 due to update in illustration.



Hyd Components Location Diagram - Rotation Drive Fig 4-1r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Illustration.

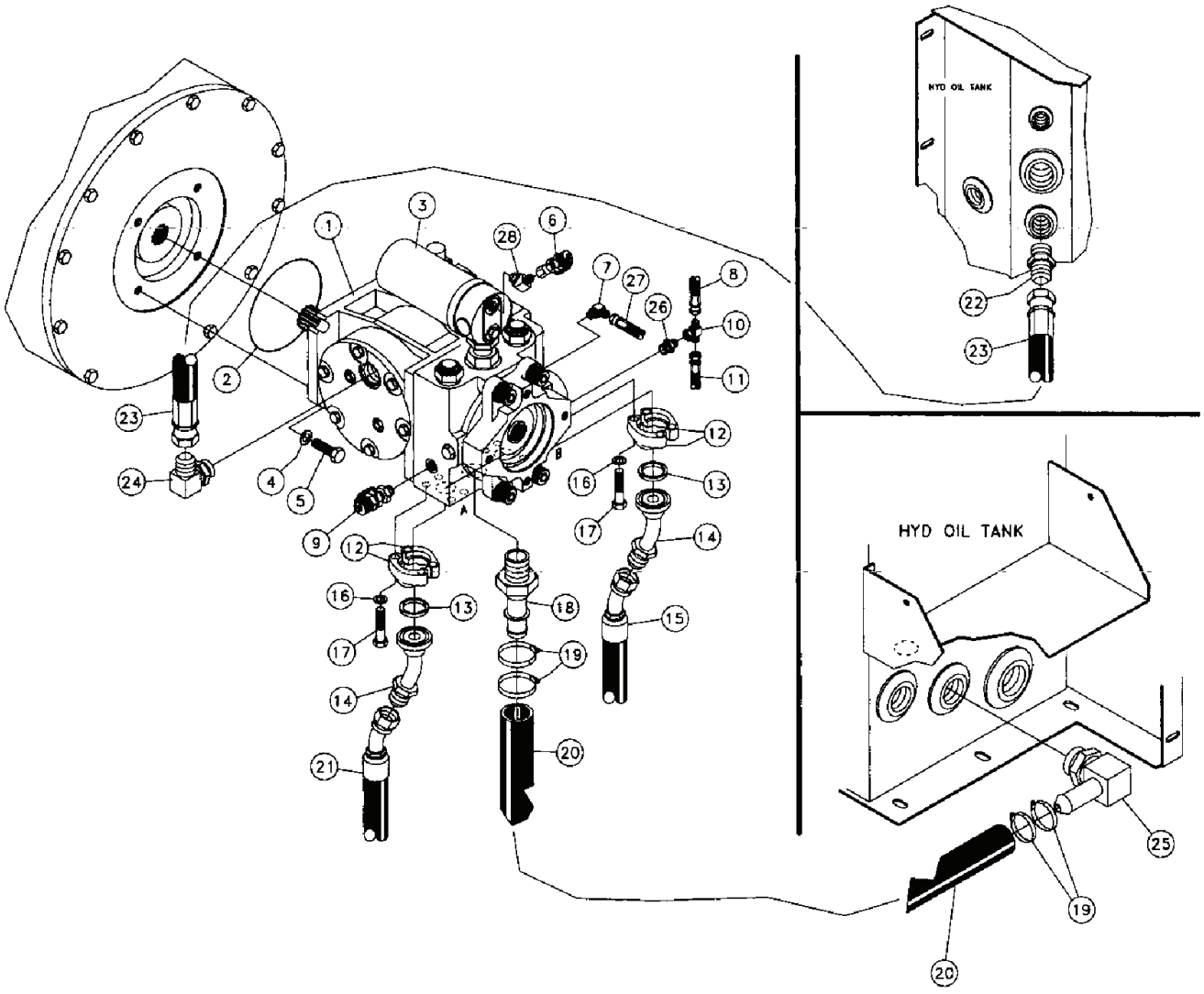
Hydrostatic Pump Fig 4-2r01



Hydrostatic Pump Fig 4-2r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1	*	228116001	PUMP-HYD. ASSY.	1	Breakdown Fig 4-17, S/N 101-1911
	*	287731001	PUMP - 90 SERIES 3.35 C.I.R.	1	Breakdown Fig 4-17, S/N 1912-
2		85642163	O-RING	1	
3		81902001	FILTER-OIL	1	
4		485025	WASHER-1/2 FLAT-HARDENED-ZINC	4	
5	*	235721001	BOLT-1/2-13X1 1/2 GR8 ZINC PLT	1	
6		83015001	FITTING-4F JIC DIAGNOSTIC	4	
7		600118001	FITTING-6MORINGX4MJIC90PARKER	1	
8		53843743	HOSE-1/4X22 4FSJICST 6000 PSI	1	
9	*	57968001	FITTING-STR-4MJ-6MORB	2	
10		66996001	TEE-4FS JIC BCHX4M JICX4M JIC	1	
11		53843739	HOSE-1/4X118 4FSJICST/ST 6000#	1	
12		67745001	SPLIT FLANGE HALF CODE 62/16	4	
13		72895001	O RING-SQ. #16 FLANGE	2	
14		65930001	12 JIC MX1”-62 45	2	
15		53845749	HOSE-3/4X33 12FSJIC ST/45 6000	1	
16		250540001	WASHER-7/116 HARDENED FLAT Y/	8	
17		250507001	BOLT 7/16-14 X 1 3/4”GR8 HEX Y	8	
18		904818001	INSERT-16M X 1 1/4 HOSE	1	
19		238094001	CLAMP-3/4X1 3/4 BAND W/SCREW	4	
20		240859001	HOSE-SUCTION 1 1/4”ID -23.00”	1	
21		53845807	HOSE-3/4X38 12FSJICST/45D6000#	1	
22		53828001	#12M O-RING-#12M JIC ST.	1	
23		53845531	HOSE-3/4X18 12FS JIC 3000 PSI	1	
24		59410001	12M JICX12M ADJ. 90 DEG.ELBOW	1	
25		99999001	FITTING-20MORINGX1 1/4BEAD 90	1	
26		57968001	6M O-RING 4M JIC STRAIGHT	1	
27		68210001	HOSE-1/4X24 4FS JIC (M2T)	1	
28		82931001	FITTING-6MX4M JIC 45 DEG ELBOW	1	
29	*	65565001	FITTING - 6M O-RING X 6M JIC ST.	1	
30	*	57940571	HOSE-HYD-.38-16-6FSJIC-ST/90-3000PSI	1	
31	*	5553001	FITTING - PLUG - 6MORB - HEX	1	
32	*	102115001	FITTING - 90 - 6MJ - 12MORBA	1	
33	*	59427001	TEE-6MJ-6FSJ-6MJ	1	
34	*	60248001	TEE-4M JICX4M JICX4FS JIC	1	

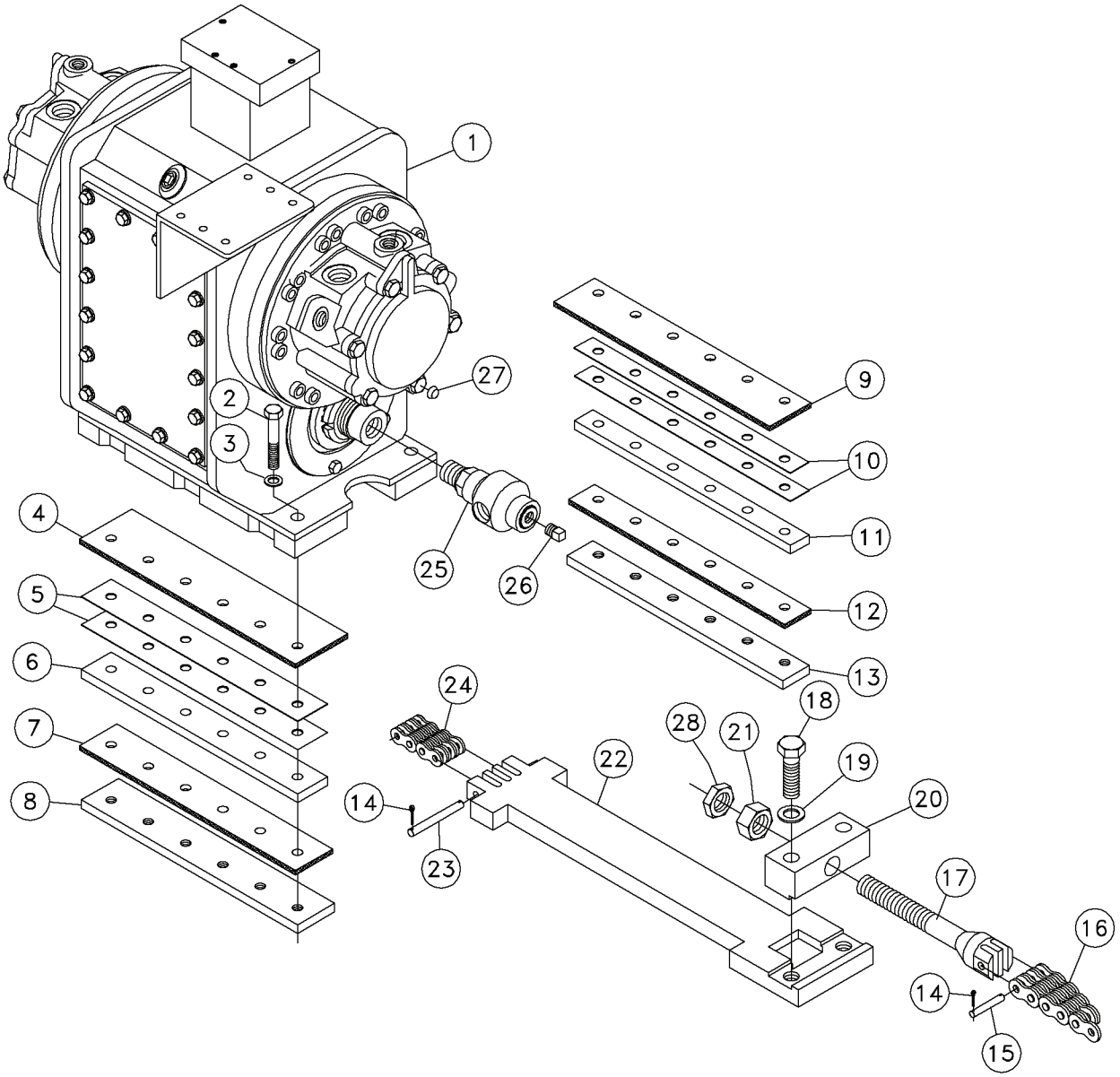
Hydrostatic Pump Fig 4-2



Hydrostatic Pump Fig 4-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228116001	PUMP-HYD. ASSY.	1	Breakdown Fig 4-16
2		85642163	O-RING	1	
3		81902001	FILTER-OIL	1	
4		485025	WASHER-1/2 FLAT-HARDENED-ZINC	4	
5		235721001	BOLT-1/2-13X1 1/2 GR8 ZINC PLT	4	
6		83015001	FITTING-4F JIC DIAGNOSTIC	4	
7		600118001	FITTING-6MORINGX4MJIC90PARKER	1	
8		53843743	HOSE-1/4X22 4FSJICST 6000 PSI	1	
9		72056001	COUPLER-DIAG. TCM-20 9/16NF	2	
10		66996001	TEE-4FS JIC BCHX4M JICX4M JIC	1	
11		53843739	HOSE-1/4X118 4FSJICST/ST 6000#	1	
12		67745001	SPLIT FLANGE HALF CODE 62/16	4	
13		72895001	O RING-SQ. #16 FLANGE	2	
14		65930001	12 JIC MX1”-62 45	2	
15		53845749	HOSE-3/4X33 12FSJIC ST/45 6000	1	
16		250540001	WASHER-7/116 HARDENED FLAT Y/	8	
17		250507001	BOLT 7/16-14 X 1 3/4”GR8 HEX Y	8	
18		904818001	INSERT-16M X 1 1/4 HOSE	1	
19		238094001	CLAMP-3/4X1 3/4 BAND W/SCREW	4	
20		240859001	HOSE-SUCTION 1 1/4”ID -23.00”	1	
21		53845807	HOSE-3/4X38 12FSJICST/45D6000#	1	
22		53828001	#12M O-RING-#12M JIC ST.	1	
23		53845531	HOSE-3/4X18 12FS JIC 3000 PSI	1	
24		59410001	12M JICX12M ADJ. 90 DEG.ELBOW	1	
25		99999001	FITTING-20MORINGX1 1/4BEAD 90	1	
26		57968001	6M O-RING 4M JIC STRAIGHT	1	
27		68210001	HOSE-1/4X24 4FS JIC (M2T)	1	
28		82931001	FITTING-6MX4M JIC 45 DEG ELBOW	1	

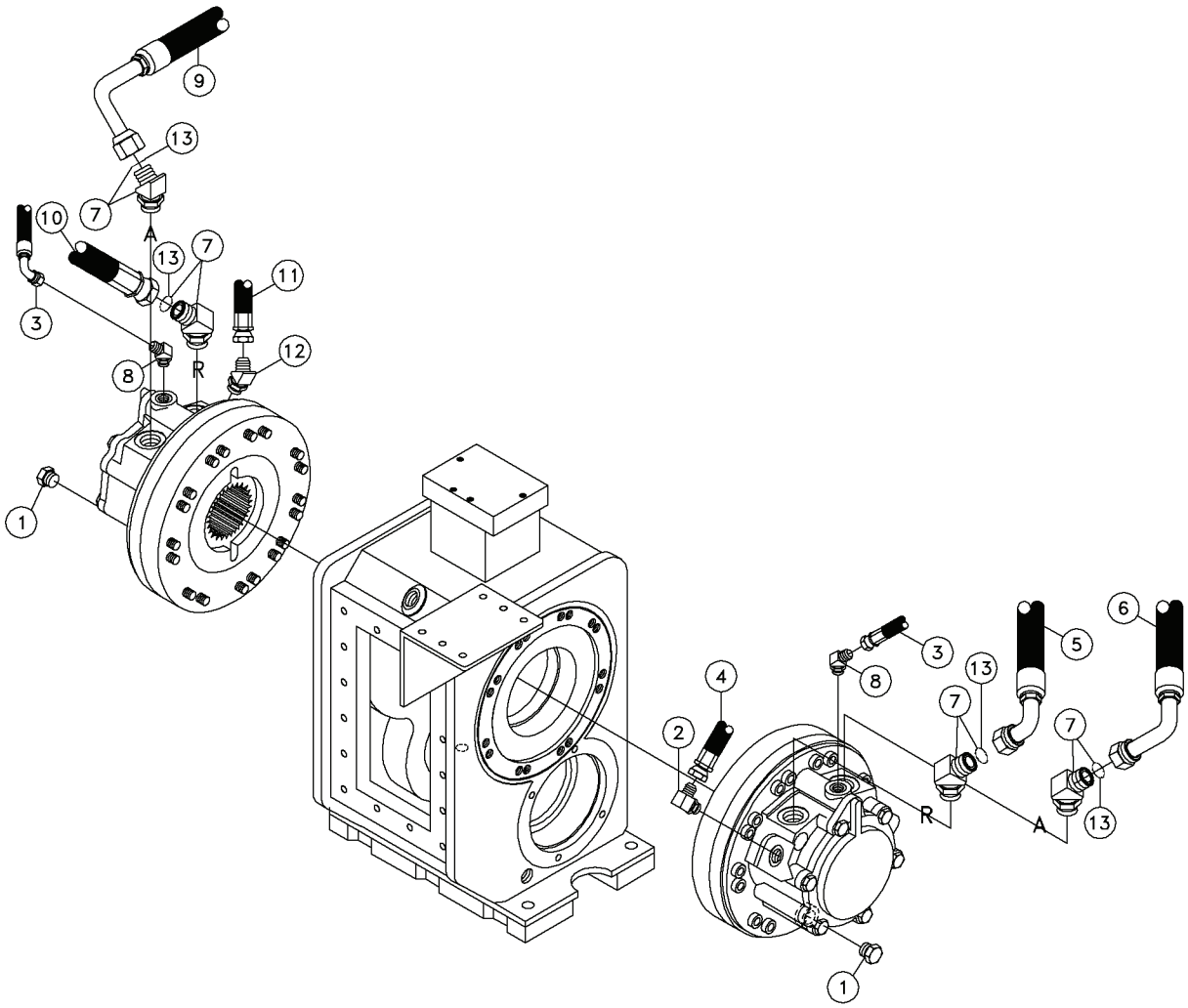
Rotation Gearbox Fig 4-3r02



Rotation Gearbox Fig 4-3r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
1	*	279800001	GEARBOX - 3 SPEED	1	Breakdown Fig 4-11
2		235724001	BOLT-1/2-13 X 3 GR8 HEX ZINC PLT	12	
3		485025	WASHER-1/2 FLAT-HARDENED-ZINC	12	
4		240864001	BAR-WEAR (1/4 X 3 1/2-14.2.6)	1	
5		220965001	SHIM	2	
6		215344001	SLIDE-GEARBOX	1	
7		240866001	BAR-WEAR (1/4 X 2.50-14.50)	1	
8		215348001	SLIDE-GEARBOX	1	
9		240865001	BAR-WEAR 91/4 X 2.75-14.26)	1	
10		220966001	SHIM	2	
11		215343001	SLIDE-GEARBOX	1	
12		240863001	BAR-WEAR (1/4 X 1.75-14.50)	1	
13		215347001	SLIDE-GEARBOX	1	
14		510005	COTTER PIN-3/32” X 3/4”	4	
15		89371001	PIN-BL866 ANCHOR 3/8” DIA X 2.38	1	
16		98422001	LINK-BL866 CONNECTOR		
16		86104257	CHAIN-LEAF BL866 257 PITCHES	1	
17		240818001	BOLT CHAIN TIGHTENER	1	
18		386024	3/4 16 X 2 1/2 HEX HD BOLT GR8	2	
19		235717001	WASHER-3/4 SAE HARD ZINC PLTD	2	
20		240840001	BAR-BOLT ANCHOR	1	
21		75391001	NUT-1-UNF GR.8 HEX	1	
22		225167001	BAR-SLIDE	1	
23		89349001	PIN-ANCHOR BL866 3/8 DIA X 3.44	1	
24		245009001	CHAIN-LEAF BL866 165 PITCHES	1	
		98422001	LINK-BL866 CONNECTOR		
25		230813001	SWIVEL-12M X 12F	1	
		224904007	REPAIR KIT		Include O-Rings & Seals
26		732005	3/8” PIPE PLUG BLACK STEEL	1	
27		101522001	BUMPER-RUBBER SELF ADHES .3/40D	2	
28		229131001	NUT-1-14 UNF HEX JAM	1	

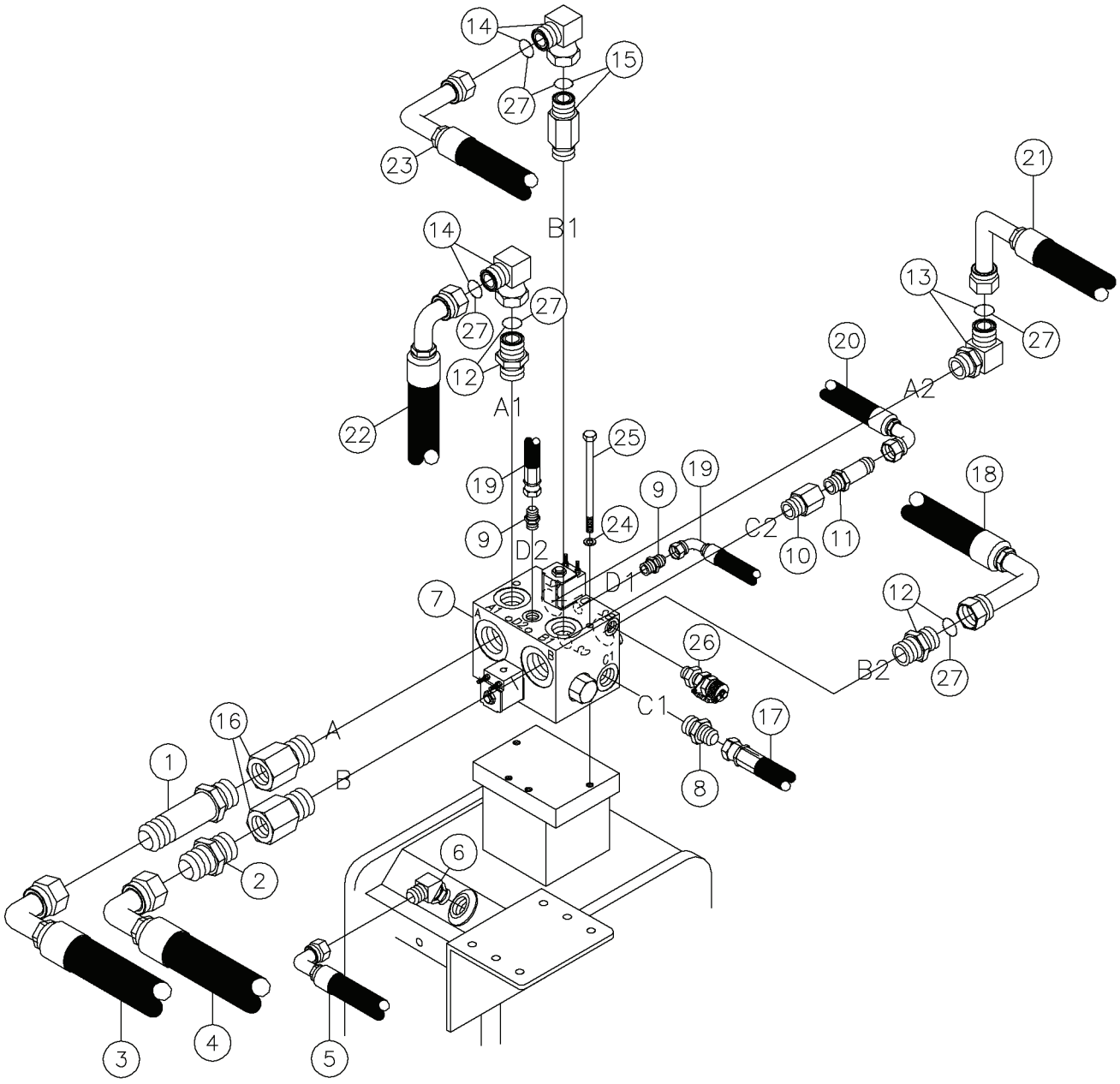
Rotation Drive Motor Hyd Fig 4-4r02



Rotation Drive Motor Hyd Fig 4-4r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration
1		56218001	PLUG-#8M	2	
2		53837001	FITTING-8M O-RING X 8M JIC 90 DEG	1	
3		279794001	HOSE-3/8 X 21 10FS JIC ST/90 M3K	2	
4		279793001	HOSE-1/2 X 19 8FS JIC ST/ST M3K	1	
5		279789001	HOSE-3/4 X 18 12F FOR X 90S/90L G6K	1	
6		279790001	HOSE-3/4 X 18 12F FOR X 90L/90L G6K	1	
7		279782001	FITTING-FLT-45D-12 MORS X 12M	4	
8		65563001	FITTING-6M O-RING X 6M JIC 45 DEG	2	
9		279791001	HOSE-3/4 X 21 12F FOR X 90L/90/ G6K	1	
10		279788001	HOSE-3/4 X 16.25 12F FOR X 90S/ST G6K	1	
11		279792001	HOSE-1/2 X 17 8FS JIC ST/90	1	
12		53834001	#8M O-RING-#8M JIC 45 DEG	1	
13		93847001	O-RING-AS-018-C90 FOR # 120RS FIT	A/R	P/N Qty Of 1 = 1 Each

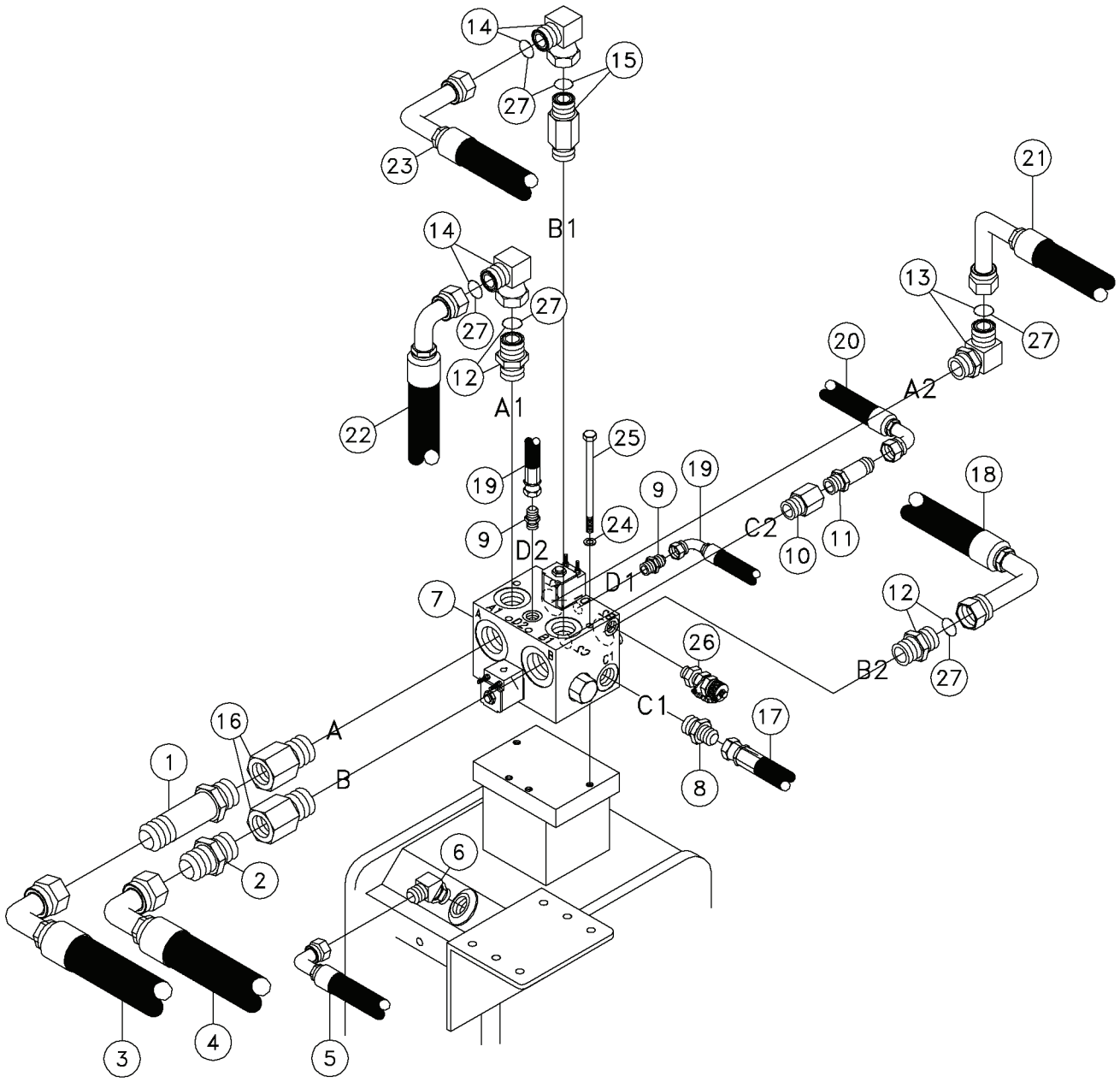
Loop Flush Valve Fig 4-5r05



Loop Flush Valve Fig 4-5r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		59434001	12M JIC X 12M LONG ST THRD ADAPT	1	
2		53828001	#12M O-RING #12M JIC ST	1	
3	*	250708001	HOSE-3/4X146 12FSJIC ST/90 G6K	1	
4	*	250707001	HOSE-3/4X142 12FSJIC ST/90 G6K	1	
5	*	250710001	HOSE-1/2X186 8 FSJIC ST/90 M3K	1	
6		53834001	#8M O-RING #8M JIC 45 DEG	1	
7		277838001	VALVE-3 SPEED SHUTTLE	1	Breakdown Fig 4-13
8		53826001	#10M O-RING #8M JIC ST.	1	
9		65565001	FITTING-6M O-RING X 6M JIC ST.	1	
10		60930001	10M X 8 F ST. SOLID REDUCER	1	
11		100850001	FITTING-8M X 8M JIC LONG STR.	1	
12	*	279784001	FITTING-STR-12MORFF-12MORB	1	
13		279787001	FITTING-FLTF 90D 12MORS X 12M	1	
14		72423001	FITTING-FLTF 90D 12FORS X 12M	2	
15		279786001	FITTING-FLTF-L-12MORS X 12M	1	
16		71252001	FITTING-12FOR X 12MOR ADAPTER	2	
17		279793001	HOSE-1/2 X 19 8FS JIC ST/ST M3K	1	
18		279791001	HOSE-3/4 X 21 12FFOR X 90L/90/G6K	1	
19		279794001	HOSE-3/8 X 21 10FS JIC ST/90 M3K	2	
20		279792001	HOSE-1/2 X 17 8FS JIC JIC ST/90	1	
21		279789001	HOSE-34 X 18 12FFOR X 90S/90L G6K	1	
22		279788001	HOSE-3/4 X 16.25 12FFOR X 90S/ST G6K	1	
23		279790001	HOSE-3/4 X 18 12FFOR X 90L/90L GK	1	
24		253714001	WASHER-5/16 SAE HARD ZINC PLTD	4	
25		248069001	BOLT 5/16-18 X 5 GR 8 ZINC PLTD	4	
26		72056001	COUPLER-DIAG. TCM-20 9/16NF	2	
27		93847001	O-RING-AS-018-C90 FOR #120RS FIT	A/R	P/N Qty Of 1 = 1 Each

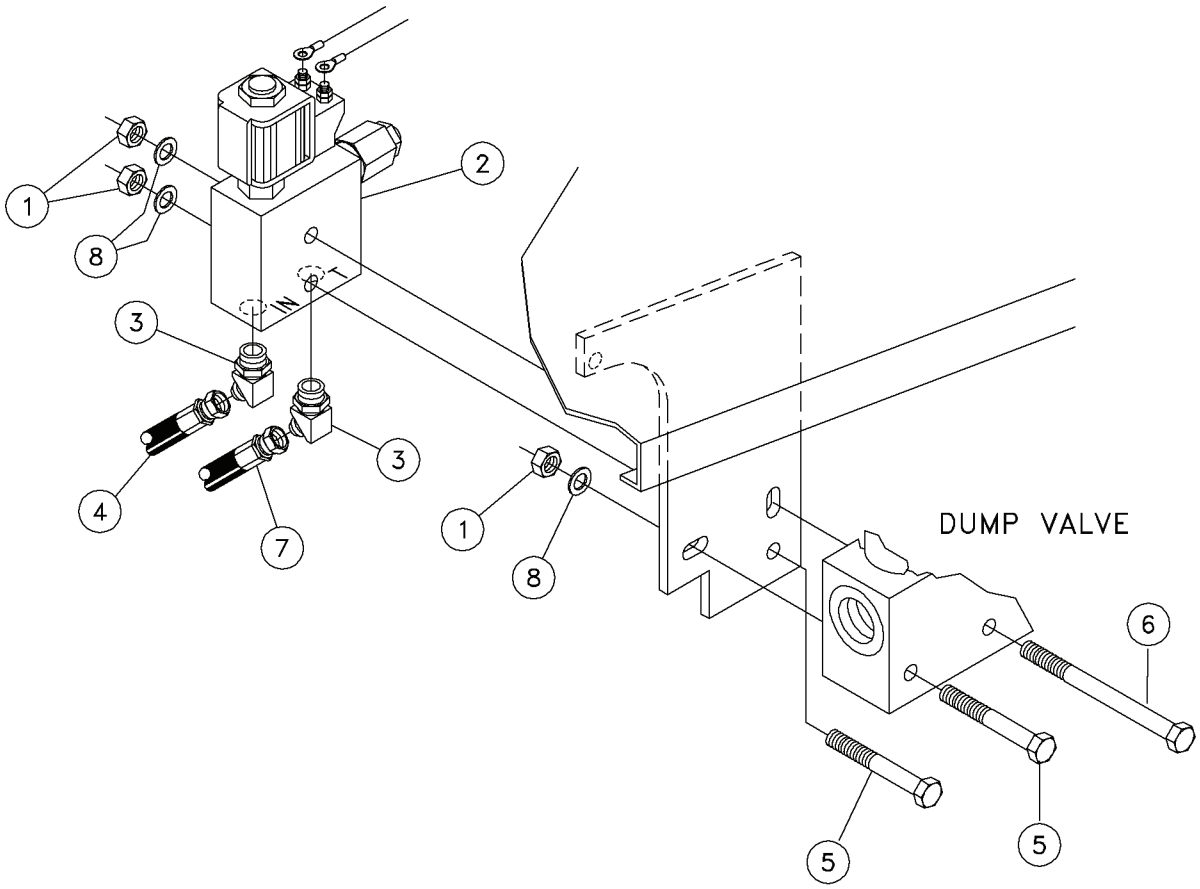
Loop Flush Valve Fig 4-5r04



Loop Flush Valve Fig 4-5r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July,		Update In Illustration & Parts List
1		59434001	12M JIC X 12M LONG ST THRD ADAPT	1	
2		53828001	#12M O-RING #12M JIC ST	1	
3		53845811	HOSE-3/4 X 126 12FS JIC ST/90 D6000	1	
4		53845809	HOSE-3/4 X 122 12FS JIC ST/90 D 6000	1	
5		244283001	HOSE-1/2 X 166 8FS JIC ST/90 3000	1	
6		53834001	#8M O-RING #8M JIC 45 DEG	1	
7		277838001	VALVE-3 SPEED SHUTTLE	1	Breakdown Fig 4-13
8		53826001	#10M O-RING #8M JIC ST.	1	
9		65565001	FITTING-6M O-RING X 6M JIC ST.	1	
10		60930001	10M X 8 F ST. SOLID REDUCER	1	
11		100850001	FITTING-8M X 8M JIC LONG STR.	1	
12	*	114392001	FITTING-FLTF 12M ORS X 12M	1	Replaces 279784001
13		279787001	FITTING-FLTF 90D 12MORS X 12M	1	
14		72423001	FITTING-FLTF 90D 12FORS X 12M	2	
15		279786001	FITTING-FLTF-L-12MORS X 12M	1	
16		71252001	FITTING-12FOR X 12MOR ADAPTER	2	
17		279793001	HOSE-1/2 X 19 8FS JIC ST/ST M3K	1	
18		279791001	HOSE-3/4 X 21 12FFOR X 90L/90/G6K	1	
19		279794001	HOSE-3/8 X 21 10FS JIC ST/90 M3K	2	
20		279792001	HOSE-1/2 X 17 8FS JIC JIC ST/90	1	
21		279789001	HOSE-34 X 18 12FFOR X 90S/90L G6K	1	
22		279788001	HOSE-3/4 X 16.25 12FFOR X 90S/ST G6K	1	
23		279790001	HOSE-3/4 X 18 12FFOR X 90L/90L GK	1	
24		253714001	WASHER-5/16 SAE HARD ZINC PLTD	4	
25		248069001	BOLT 5/16-18 X 5 GR 8 ZINC PLTD	4	
26		72056001	COUPLER-DIAG. TCM-20 9/16NF	2	
27		93847001	O-RING-AS-018-C90 FOR #120RS FIT	A/R	P/N Qty Of 1 = 1 Each

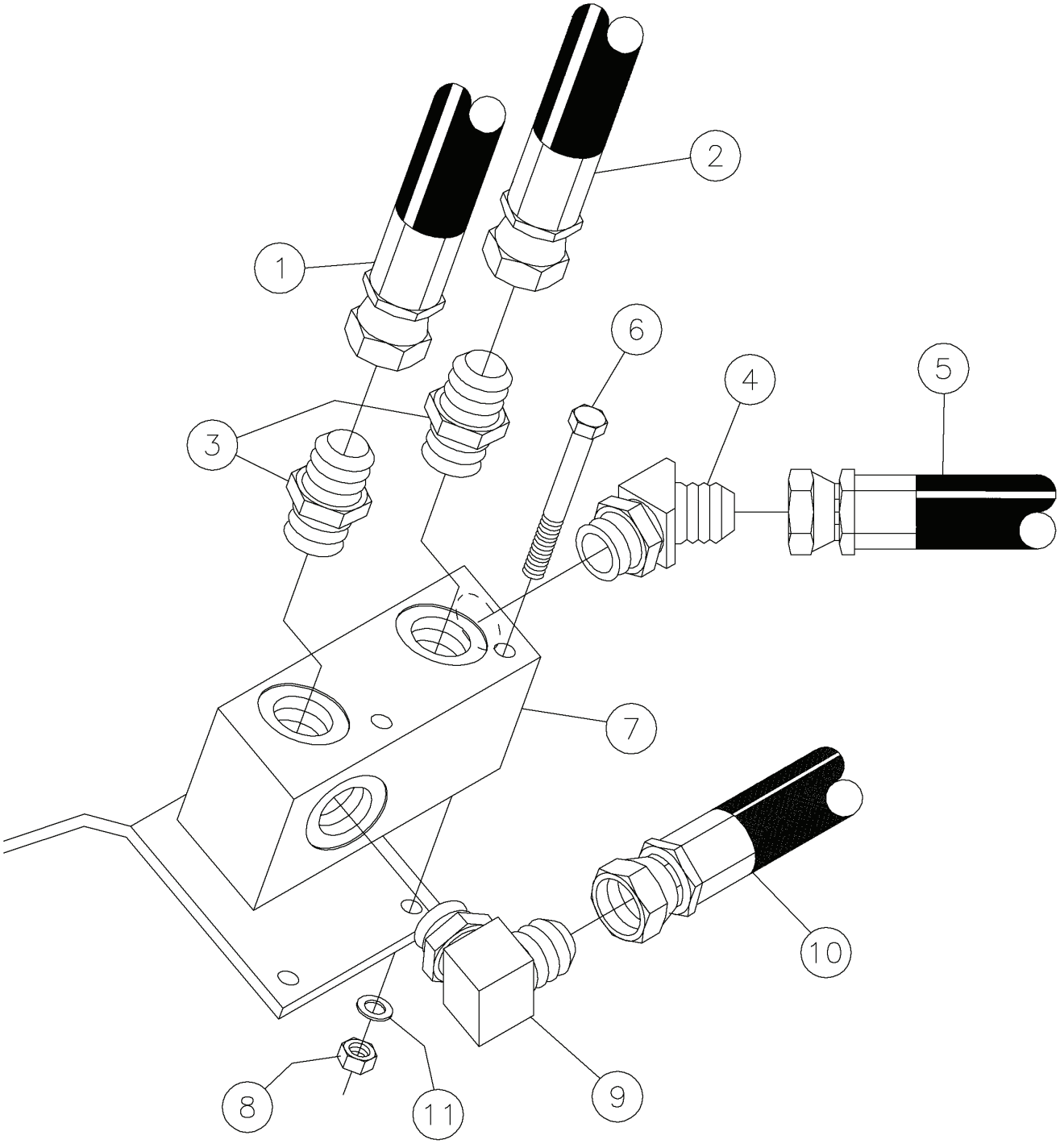
Pressure Limiter Valve Fig 4-6r02



Pressure Limiter Valve Fig 4-6r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Parts List
1		235725001	NUT-3/8-16 GR8 ZINC PLTD	3	
2	*	251063001	VALVE-REMOTE PRESSURE LIMITER	1	Breakdown Fig 4-12
3		82931001	FITTING-6MX4M JIC 45DEG.ELBOW	2	
4		53843743	HOSE-1/4X22 4FSJICST 6000 PSI	1	
5		235744001	BOLT-1/2-13X2 3/4 GR8 ZNC PLTD	2	
6		238246001	BOLT 3/8”-16 X 4 1/2” GR8 HEX	1	
7		68210001	HOSE-1/4X24 4FS JIC (M2T)	1	
8		235713001	WASHER-3/8 SAE HARD ZINC PLTD	3	

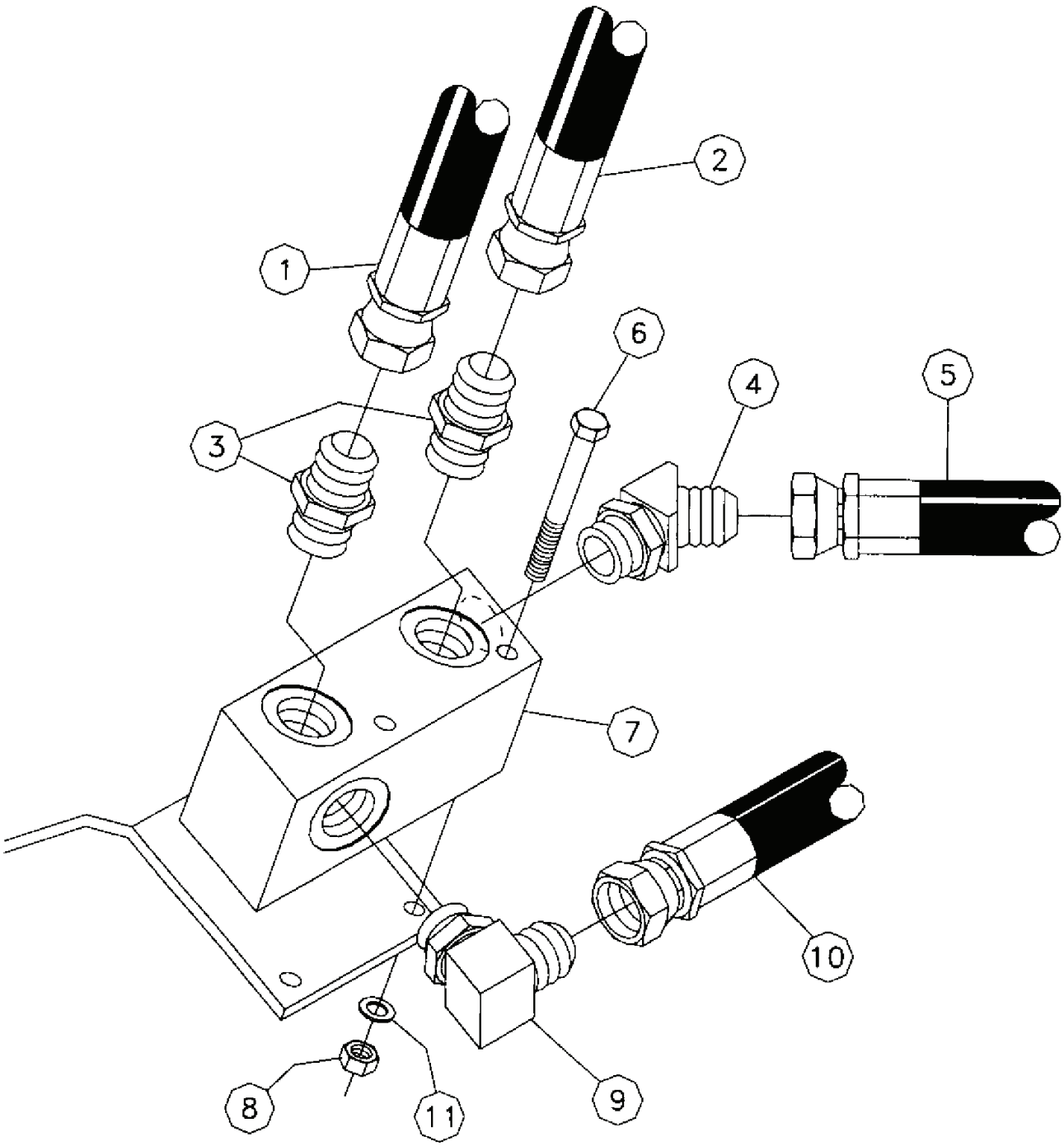
Hose Junction Block Fig 4-7r01



Hose Junction Block Fig 4-7r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1	*	250708001	HOSE-3/4X146 12FSJIC ST/90 G6K	1	
2	*	250707001	HOSE-3/4X142 12FSJIC ST/90 G6K	1	
3		53828001	#12M O-RING-#12M JIC ST.	2	
4		60718001	12M JICX12M ADJ.45 DEG.EL	1	
5		53845749	HOSE-3/4X33 12FSJIC ST/45 6000	1	
6		16114034	BOLT-3/8-16X3 1/2 HEX HD. GR8	2	
7		225193001	BLOCK-HOSE JCT	1	
8		235725001	NUT-3/8-16 GR8 ZINC PLTD	2	
9		59410001	12M JICX12M ADJ. 90 DEG.ELBOW	1	
10		53845807	HOSE-3/4X38 12FSJICST/45D6000#	1	
11		235713001	WASHER-3/8 SAE HARD ZINC PLTD	2	

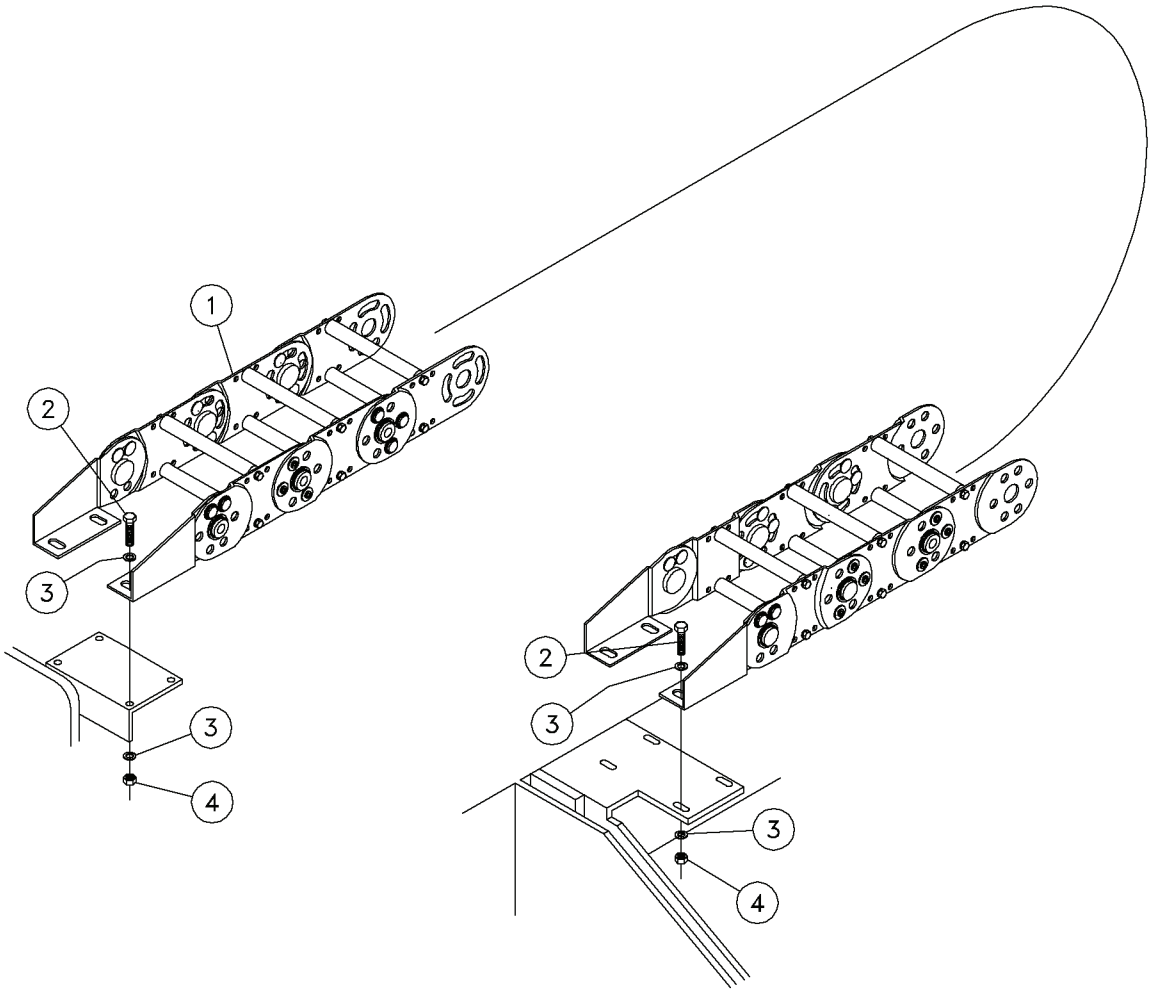
Hose Junction Block Fig 4-7



Hose Junction Block Fig 4-7

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		53845811	HOSE-3/4X126 12FSJICST/90D6000	1	
2		53845809	HOSE-3/4X122 12FSJICST/90D6000	1	
3		53828001	#12M O-RING-#12M JIC ST.	2	
4		60718001	12M JICX12M ADJ.45 DEG.EL	1	
5		53845749	HOSE-3/4X33 12FSJIC ST/45 6000	1	
6		16114034	BOLT-3/8-16X3 1/2 HEX HD. GR8	2	
7		225193001	BLOCK-HOSE JCT	1	
8		235725001	NUT-3/8-16 GR8 ZINC PLTD	2	
9		59410001	12M JICX12M ADJ. 90 DEG.ELBOW	1	
10		53845807	HOSE-3/4X38 12FSJICST/45D6000#	1	
11		235713001	WASHER-3/8 SAE HARD ZINC PLTD	2	

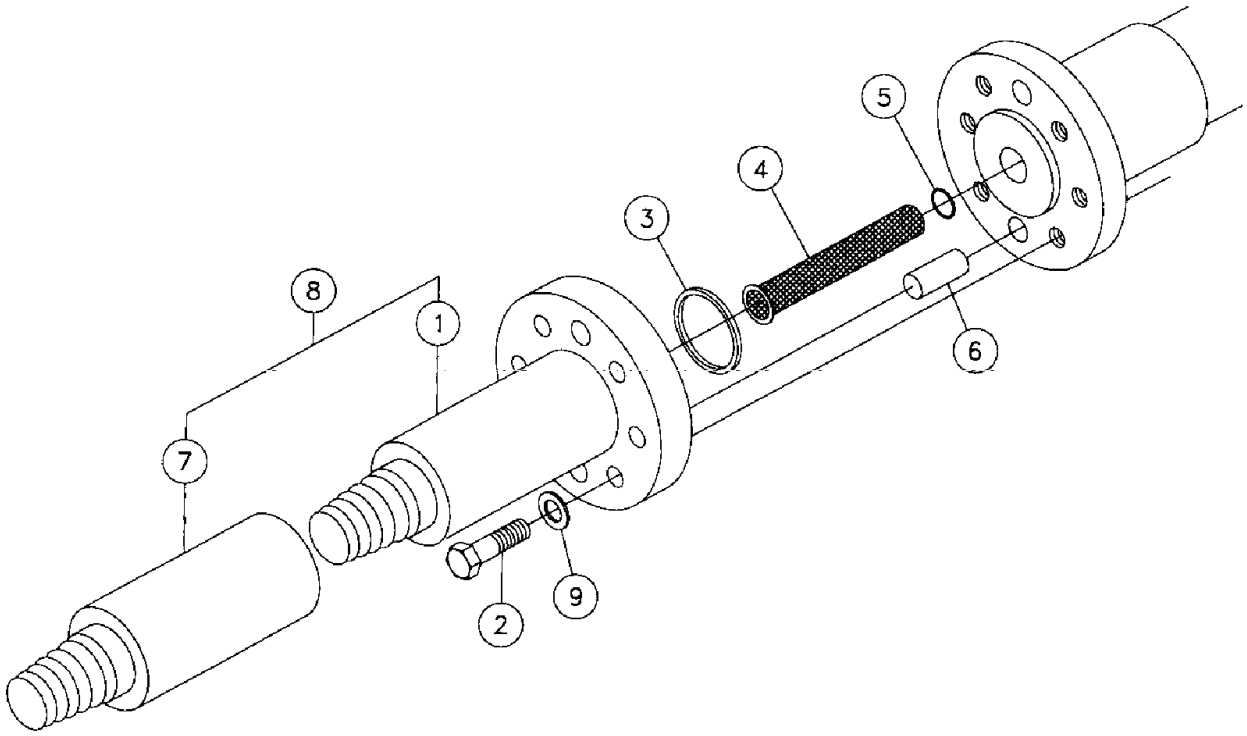
Hose Carrier Fig 4-8r01



Hose Carrier Fig 4-8r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
1	*	250734001	HOSE CARRIER-SM SERIES 108”	1	Replaces 225192001
2		235723001	BOLT-3/8-16 X 1 1/2 GR8 ZINC PLT	8	
3		235713001	WASHER-3/8 SAE HARD ZINC PLTD	16	
4		235725001	NUT-3/8-16 GR8 ZINC PLTD	8	

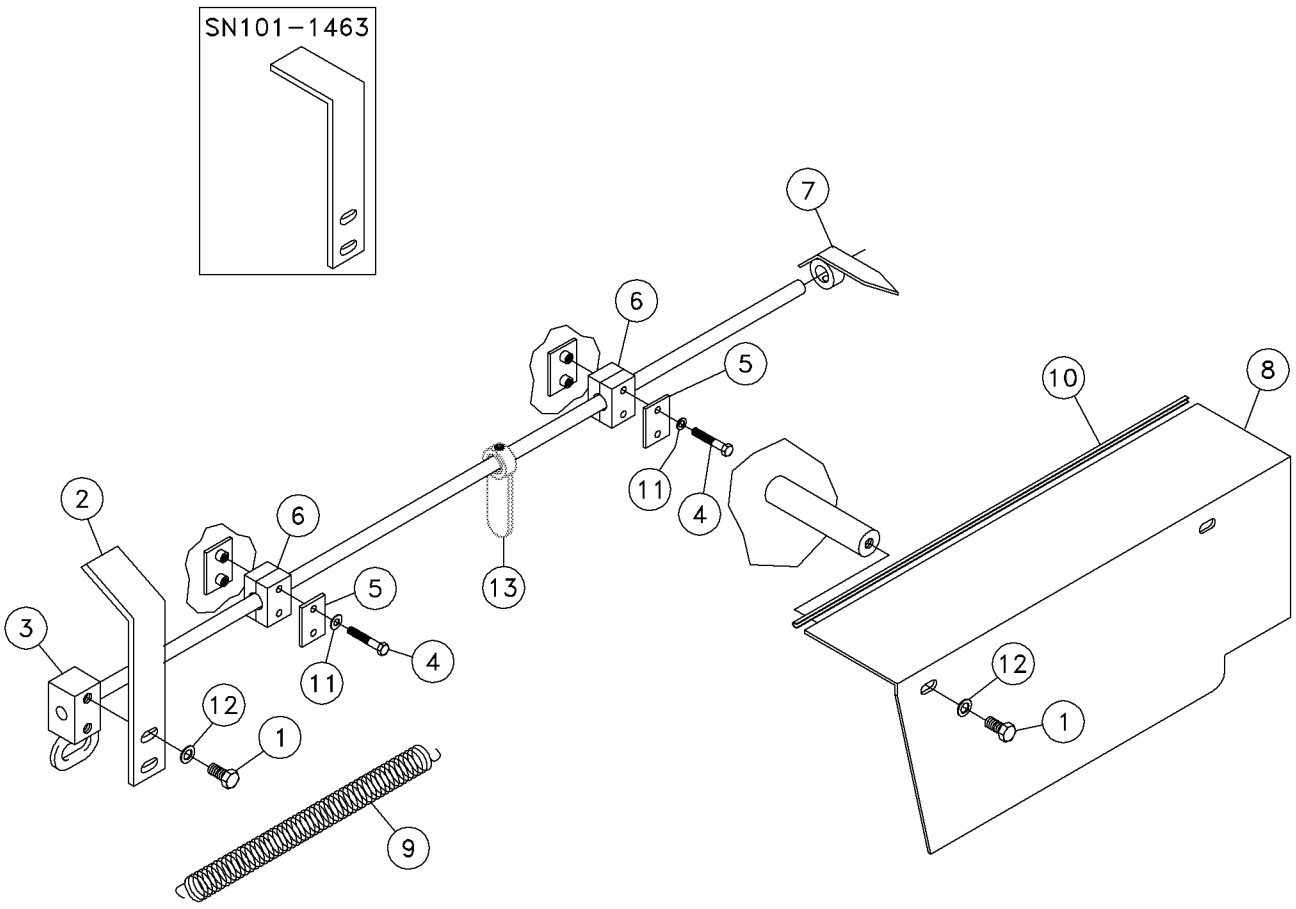
Drive Chuck Fig 4-9



Drive Chuck Fig 4-9

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		230806001	DRIVE CHUCK 2 5/8 OD	1	
2		240334001	BOLT-1/2-13X1 3/4 GR8 ZINC PLT	6	
3		72897001	O RING-SQ. #24 FLANGE	1	
4		905011001	SCREEN (DRILL FLUID)	1	
		905012001	SCREEN (WATER)	1	
5		904508001	WASHER-BLACK RUBBER	1	
6		70096001	PIN-DOWEL 5/8DIA.-1 1/2	2	
7		249166001	SUB-2 3/8 OD X 7.00	1	
8		249169001	DRIVE CHUCK-2 3/8 OD-7.00	1	
9		485025	WASHER-1/2 FLAT-HARDENED-ZINC	6	

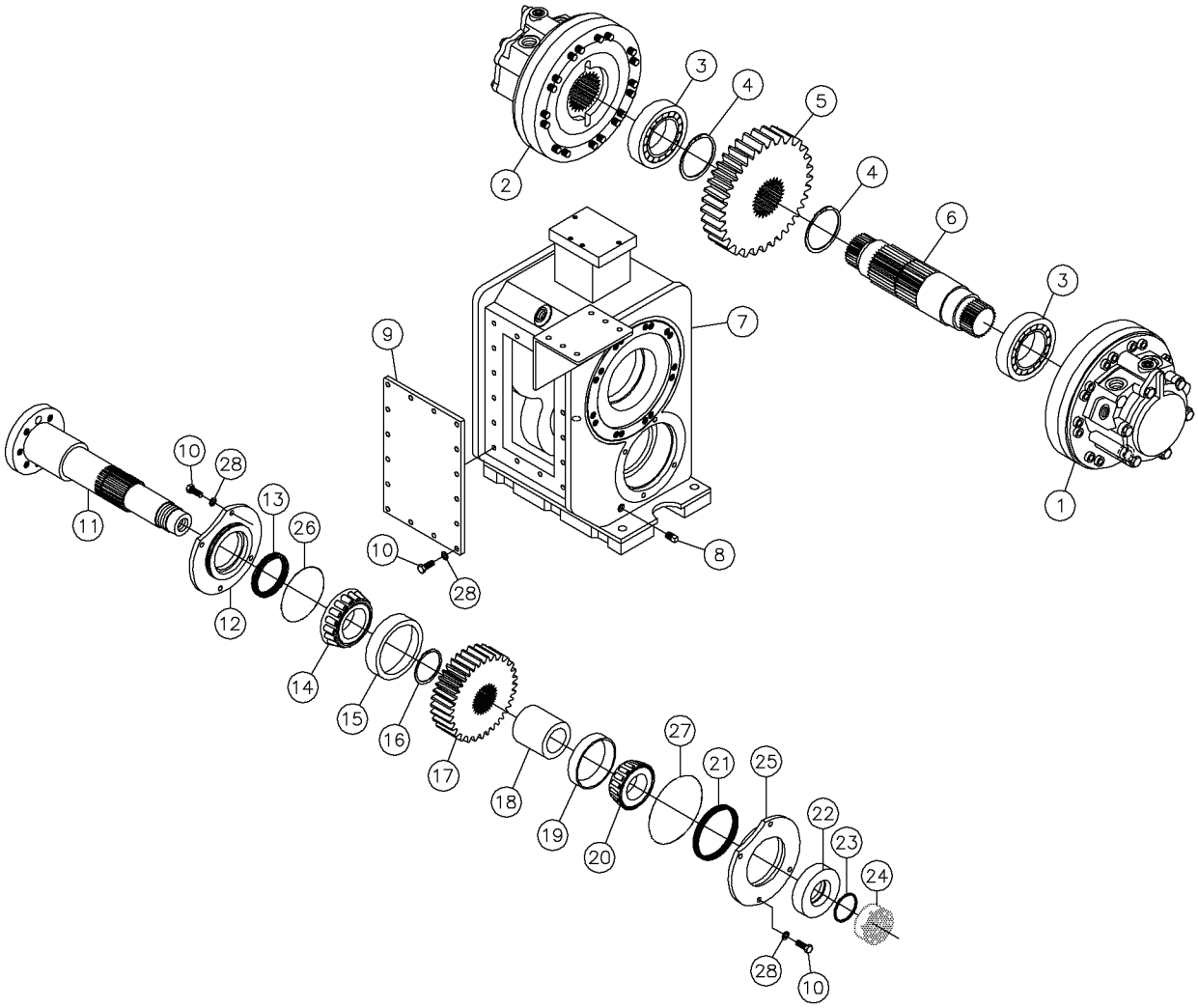
Rod Position Indicator Fig 4-10r02



Rod Position Indicator Fig 4-10r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration
1		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	4	
2		225200001	BAR-MARKER	1	
3		225194001	BAR-MARKER	1	
4		238210001	BOLT-1/4-20 X 1 1/2 GR8 HEX ZYC	4	
5		903135005	PLATE-COVER COP-2	2	
6		903135003	CLAMP-HOSE 20675-PP	4	
7		230839001	POINTER	1	
8		235981001	COVER-VALVE	1	
9		1789001	SPRING-1 1/8 OD X 15/16 ID X 15 EXT	1	
10		212522001	TRIM-1/4 EDGE	A/R	P/N Qty Of 1 = 1 Foot
11		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	
12		235716001	WASHER-1/4 SAE HARD ZINC PLTD	4	
13		250660001	ARM-SWITCH BRACKET	1	

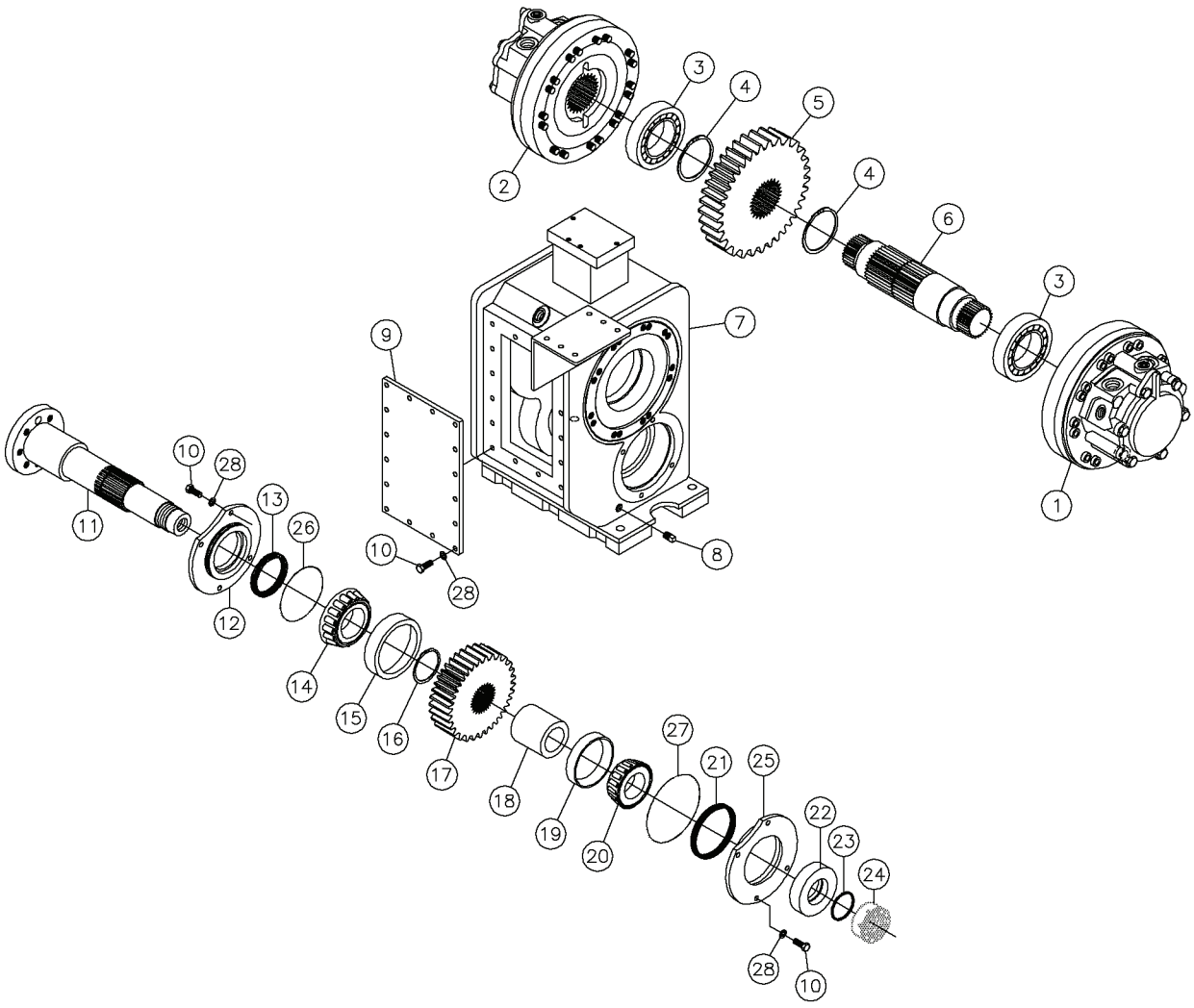
Rotation Gearbox Components (S/N 2053-) Fig 4-11r07



Rotation Gearbox Components (S/N 2053-) Fig 4-11r07

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2008		Change Numbers And Added Serial Numbers.
1	*	296273611	MOTOR-38.2CID W/O BRAKE D PREF	1	Breakdown Fig 4-15 (S/N 2053-)
2	*	296273612	MOTOR-38.2CID W/O BRAKE G PREF	1	Breakdown Fig 4-16 (S/N 2053-)
3		1706007	BRG. -22215 LB/C3 75MM SPH. ROL.	2	
4		224896325	SNAP RING - 3 1/4" EXTERNAL	2	
5		220488001	GEAR-37 TOOTH	1	
6	*	296273614	SHAFT-TOP MOTOR	1	(S/N 2053-)
7	*	296273615	HOUSING-GEARBOX D24 X 40A	1	(S/N 2053-)
8		734001	PLUG-1/2" MAGNETIC	1	S/N 101-1017
		283523001	PLUG-3/8 NPT HEX MAGNETIC	1	S/N 1018 -
9		220487001	PLATE-LID	1	
10		235727001	BOLT-3/8-16 X 1 GR8 HEX ZINC PLT	24	
11		243031001	SHAFT-GEARBOX ROTATION	1	
12		228158001	GLAND-FRONT SEAL	1	
13		235788001	SEAL-3 1/8" HIGH PRESSURE	1	
14		4771061	BRG. CONE	1	
15		1715013	TIMKEN CUP-2 1/2"	1	
16		224896250	SNAP RING-2 1/2" EXTERNAL	1	
17		220489001	GEAR-26 TOOTH	1	
18		228223001	TUBE-GEAR SPACER	1	
19		1715085	CUP-BEARING	1	
20		1716099	CONE-2 1/8" BRG.	1	
21		235787001	SEAL - 4" HIGH PRESSURE	1	
22		215350001	SLEEVE-SEAL	1	
23		214202001	O-RING	1	
24		278767001	NUT	1	
25		228131001	GLAND-REAR SEAL	1	
26		228181001	O-RING	1	
27		228180001	O-RING	1	
28		235713001	WASHER-3/8 SAE HARD ZINC PLTD	24	
	*	279800001	GEARBOX - D24X40A		Includes All Items In Figure

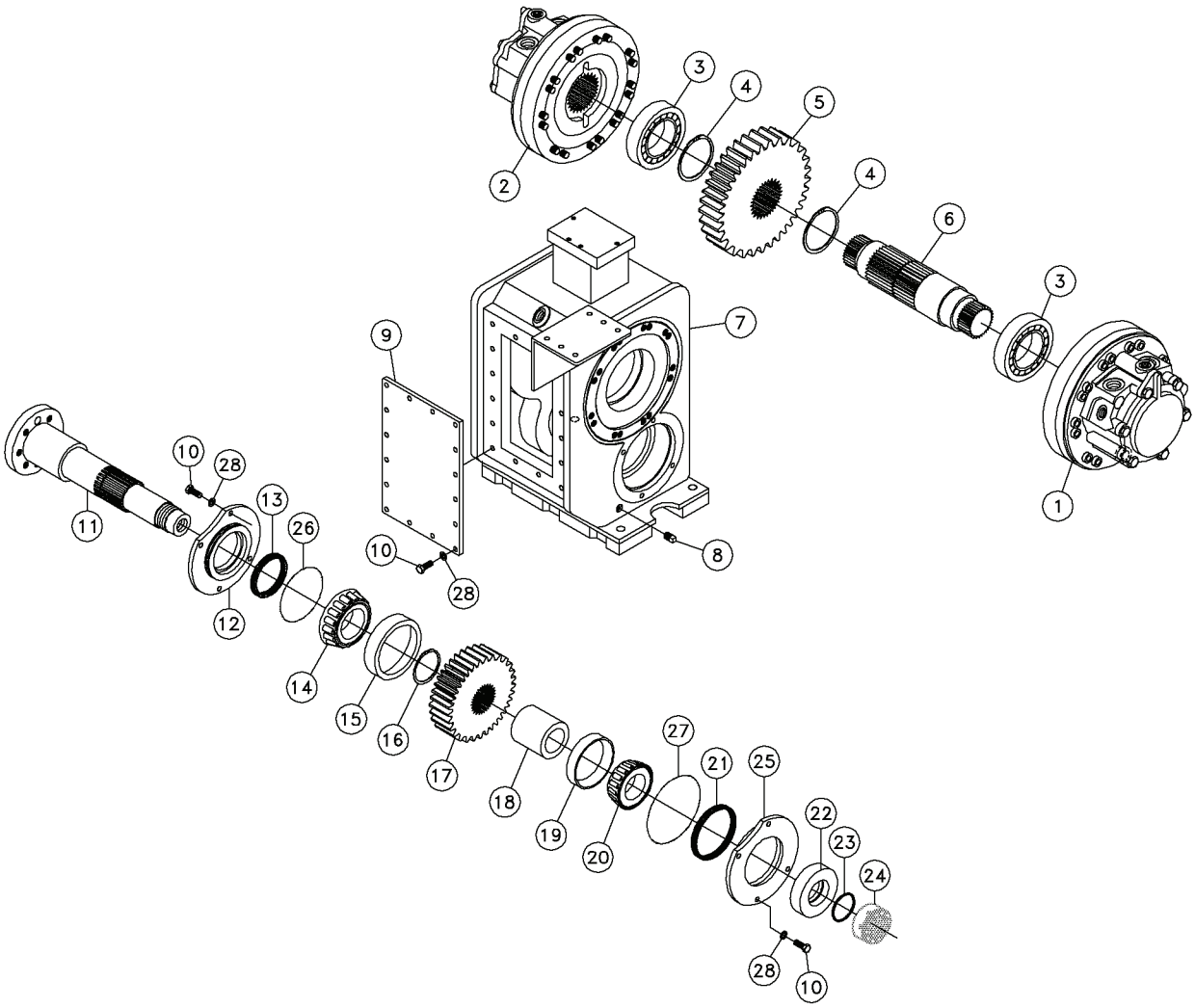
Rotation Gearbox Components Fig 4-11r06



Rotation Gearbox Components Fig 4-11r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		235790001	MOTOR-38.2CID W/O BRAKE D PREF	1	Breakdown Fig 4-15
2		235791001	MOTOR-38.2CID W/O BRAKE G PREF	1	Breakdown Fig 4-16
3		1706007	BRG. -22215 LB/C3 75MM SPH. ROL.	2	
4		224896325	SNAP RING - 3 1/4” EXTERNAL	2	
5		220488001	GEAR-37 TOOTH	1	
6		220493001	SHAFT-TOP MOTOR	1	
7		240850001	HOUSING-GEARBOX D24 X 40A	1	
8		734001	PLUG-1/2” MAGNETIC	1	S/N 101-1017
		283523001	PLUG-3/8 NPT HEX MAGNETIC	1	S/N 1018 -
9		220487001	PLATE-LID	1	
10		235727001	BOLT-3/8-16 X 1 GR8 HEX ZINC PLT	24	
11		243031001	SHAFT-GEARBOX ROTATION	1	
12		228158001	GLAND-FRONT SEAL	1	
13		235788001	SEAL-3 1/8” HIGH PRESSURE	1	
14		4771061	BRG. CONE	1	
15		1715013	TIMKEN CUP-2 1/2”	1	
16		224896250	SNAP RING-2 1/2” EXTERNAL	1	
17		220489001	GEAR-26 TOOTH	1	
18		228223001	TUBE-GEAR SPACER	1	
19		1715085	CUP-BEARING	1	
20		1716099	CONE-2 1/8” BRG.	1	
21		235787001	SEAL - 4” HIGH PRESSURE	1	
22		215350001	SLEEVE-SEAL	1	
23		214202001	O-RING	1	
24		278767001	NUT	1	
25		228131001	GLAND-REAR SEAL	1	
26		228181001	O-RING	1	
27		228180001	O-RING	1	
28		235713001	WASHER-3/8 SAE HARD ZINC PLTD	24	
	*	279800001	GEARBOX - D24X40A		Includes All Items In Figure

Rotation Gearbox Components Fig 4-11r05

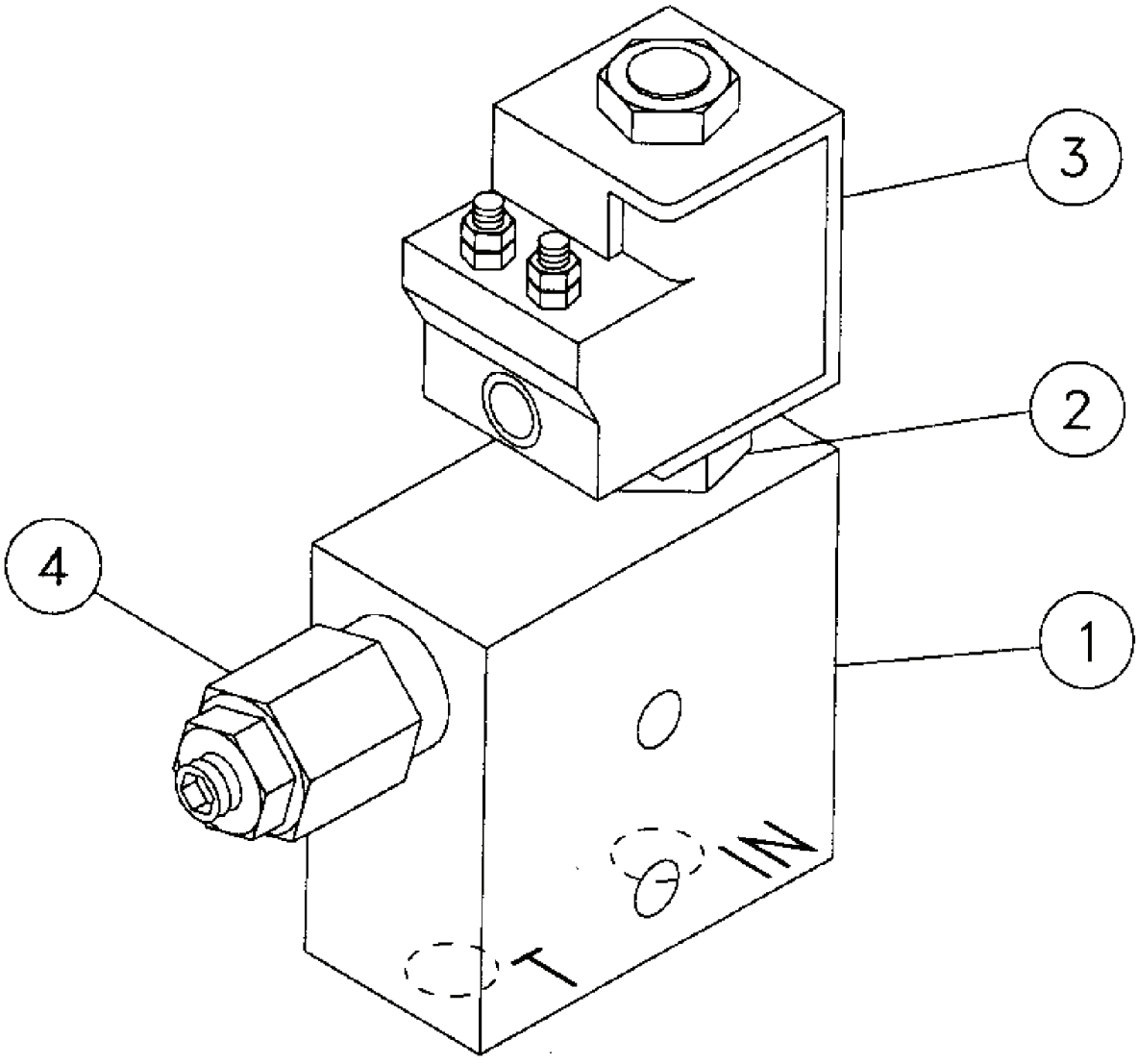


Rotation Gearbox Components Fig 4-11r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration
1		235790001	MOTOR-38.2CID W/O BRAKE D PREF	1	Breakdown Fig 4-15
2		235791001	MOTOR-38.2CID W/O BRAKE G PREF	1	Breakdown Fig 4-16
3		1706007	BRG. -22215 LB/C3 75MM SPH. ROL.	2	
4		224896325	SNAP RING - 3 1/4” EXTERNAL	2	
5		220488001	GEAR-37 TOOTH	1	
6		220493001	SHAFT-TOP MOTOR	1	
7		240850001	HOUSING-GEARBOX D24 X 40A	1	
8		734001	PLUG-1/2” MAGNETIC	1	S/N 101-1017
		283523001	PLUG-3/8 NPT HEX MAGNETIC	1	S/N 1018 -
9		220487001	PLATE-LID	1	
10		235727001	BOLT-3/8-16 X 1 GR8 HEX ZINC PLT	24	
11		243031001	SHAFT-GEARBOX ROTATION	1	
12		228158001	GLAND-FRONT SEAL	1	
13		235788001	SEAL-3 1/8” HIGH PRESSURE	1	
14		4771061	BRG. CONE	1	
15		1715013	TIMKEN CUP-2 1/2”	1	
16		224896250	SNAP RING-2 1/2” EXTERNAL	1	
17		220489001	GEAR-26 TOOTH	1	
18		228223001	TUBE-GEAR SPACER	1	
19		1715085	CUP-BEARING	1	
20		1716099	CONE-2 1/8” BRG.	1	
21		235787001	SEAL - 4” HIGH PRESSURE	1	
22		215350001	SLEEVE-SEAL	1	
23		214202001	O-RING	1	
24		278767001	NUT	1	
25		228131001	GLAND-REAR SEAL	1	
26		228181001	O-RING	1	
27		228180001	O-RING	1	
28		235713001	WASHER-3/8 SAE HARD ZINC PLTD	24	
		27980001	GEARBOX - D24X40A ROTATION (COMPLETE)		Includes All Items In Figure

Pressure Limiter Components Fig 4-12r01

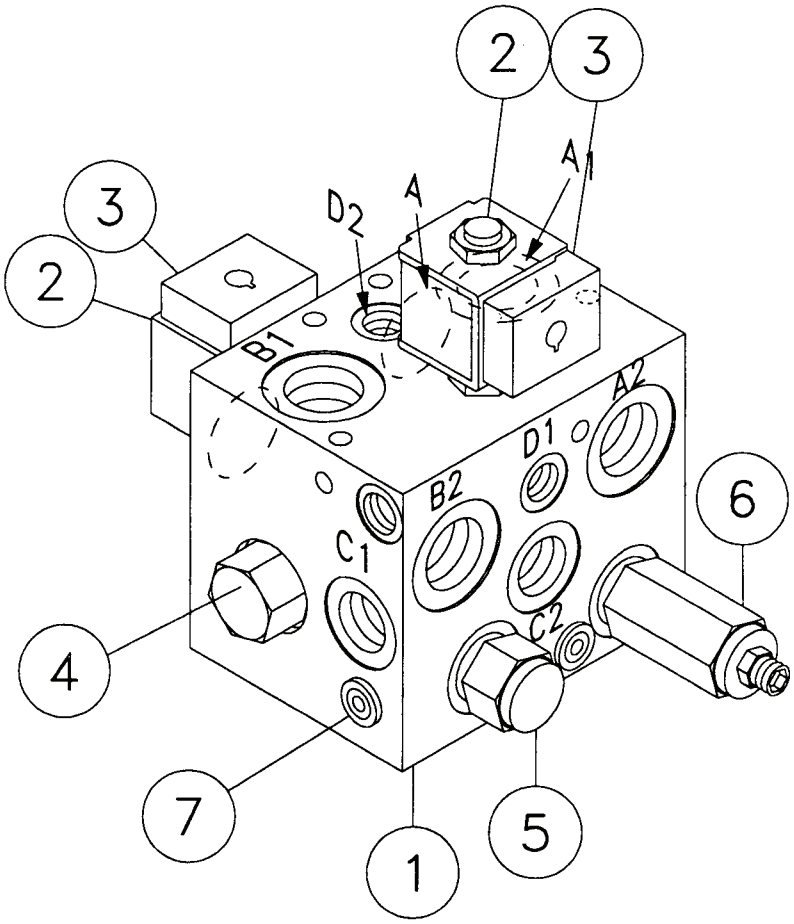
Revised February 1999 due to update in parts list. Changed parts marked with *.



Pressure Limiter Components Fig 4-12r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List.
1		228114003	BODY-MANIFOLD	1	
2		228114005	CARTRIDGE	1	
3	*	228114007	SEAL KIT		
4		228114011	VALVE RELIEF	1	
	*	251063001	VALVE-REMOTE PRESSURE LIMITER		Includes All Items In Figure

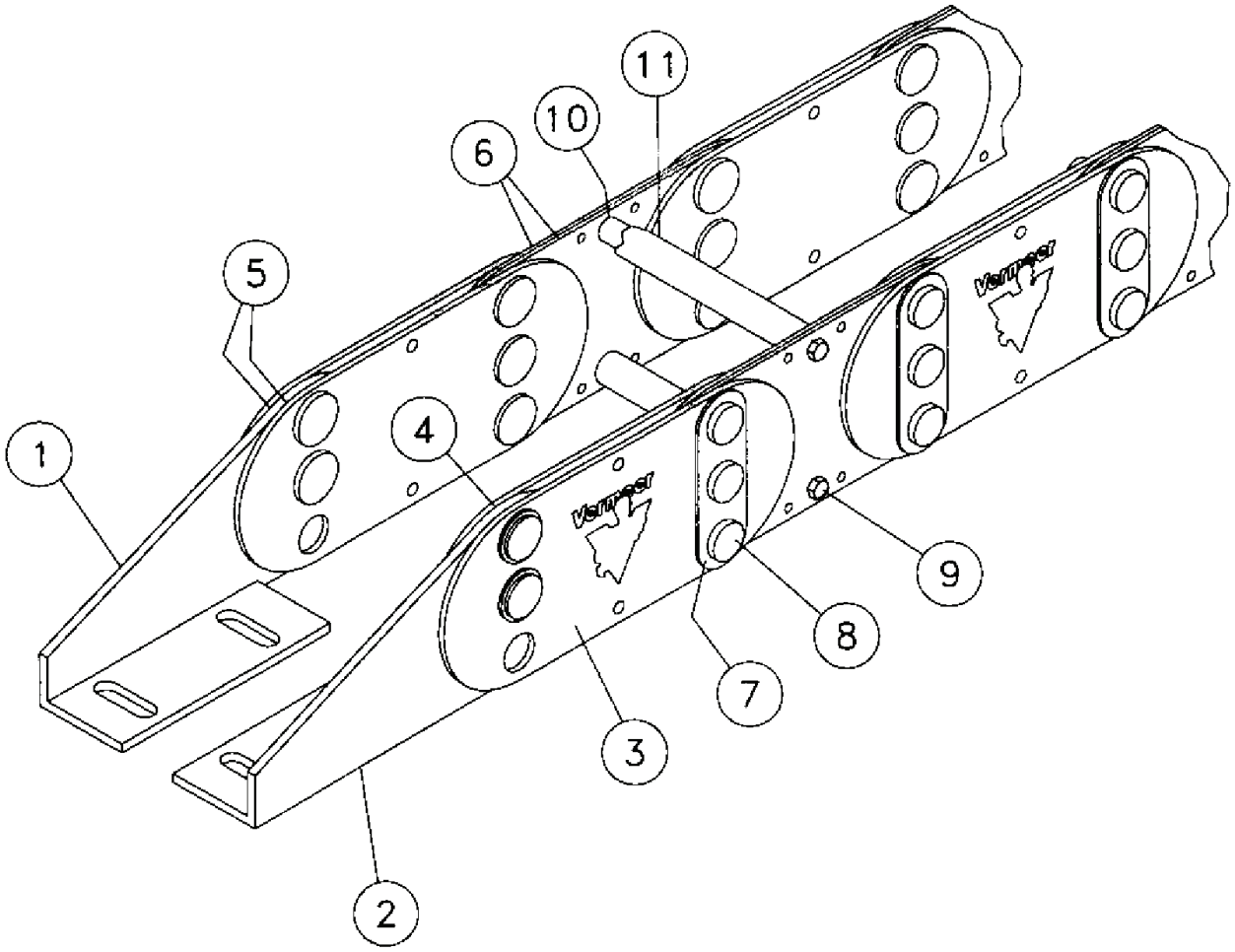
Loop Flush Valve Components Fig 4-13r04



Loop Flush Valve Components Fig 4-13r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Illustration.
1		NSS	VALVE BODY	1	
2		224476005	CARTRIDGE-VALVE	2	
3		251061003	SOLENOID VALVE COIL-2 POST	2	
		207418009	REPAIR KIT-SOLENOID VALVE		
4		277838003	SHUTTLE VALVE	1	
		277838005	REPAIR KIT-SHUTTLE VALVE		
5		277838007	PRESSURE FLOW CONTROL VALVE	1	
		277838009	REPAIR KIT-PRESSURE FLOW CONTROL VALVE		
6		277838011	RELIEF VALVE	1	
		277838013	REPAIR KIT-RELIEF VALVE		
7		277838015	#2 EPCO PLUG	6	
		277838001	VALVE-3 SPEED SHUTTLE		Includes All Items In Figure

Hose Carrier Components Fig 4-14

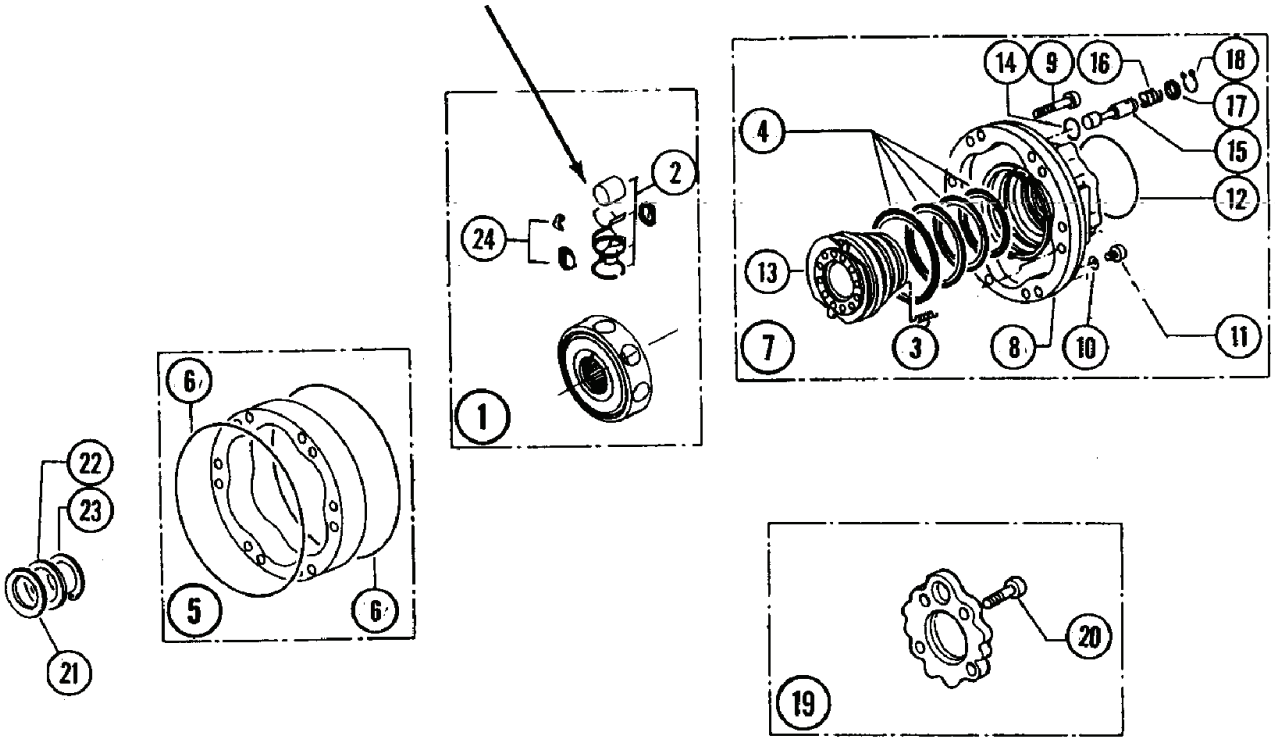


Hose Carrier Components Fig 4-14

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		234256003	PT45E MOUNTING BRACKET ASSY (L)	2	
2		234256005	PT45E MOUNTING BRACKET ASSY (R)	2	
3		234256007	PT45E OUTER LINK W/VERMEERLOGO	22	
4		234256009	PT45E OUTER LINK	22	
5		234256011	PT45E ANTI-FRICTION DISC	90	
6		225192003	PT45E INNER LINK 5.709R	44	
7		234256015	PT45E CIRCULAR PUSH-ON	42	
8		234256017	PT45E HINGE PIN-PUSH ON FASTNR	126	
9		234256019	BOLT-WHIZ LOCK .250-20 X .620	44	
10		225192005	PT35E/45E CARRIER ROD (5.100)	22	
11		225192007	PT35E/45E NYLON SLEEVE (4.900)	22	
		225192001	HOSE CARRIER-SM SERIES 108”		Includes All Items In Figure

Hyd Motor Components (S/N 2053-) Fig 4-15r01

THERE IS THE POSSIBILITY OF HAVING TWO SIZES OF PISTONS IN A MOTOR. NORMALLY CL "0" IS USED. THERE IS NO MARKING ON THE PISTON OR CYLINDER BLOCK. THERE IS THE POSSIBILITY OF HAVING CL "1" WHICH IS 1mm OVER SIZE. THERE WILL BE A "1" STAMPED ON THE PISTON AND A CORRESPONDING "1" STAMPED ON THE CYLINDER BLOCK IN THE AREA OF THE EFFECTED CYLINDER BORE.

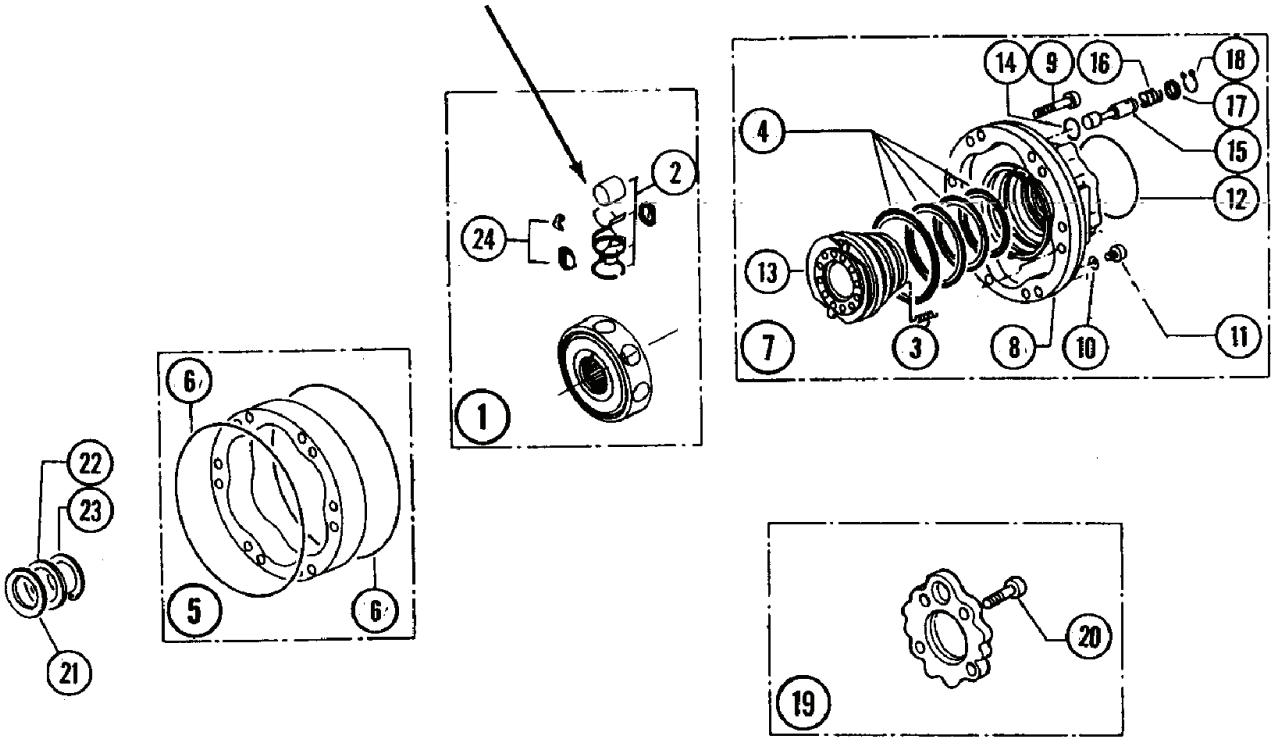


Hyd Motor Components (S/N 2053-) Fig 4-15r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1	*	296286311	CYLINDER BLOCK	1	(S/N 2053-)
2		208148001	PISTON CL.1	AR	P/N Qty Of 1 = 1 Each
		224897005	PISTON CL “0”	AR	P/N Qty Of 1 = 1 Each
3		84550029	SPRING	8	
4	*	296555027	VALVE SEAL RING KIT	1	
5		208151001	CAM RING	1	
6	*	256555021	O-RING	2	
7	*	296278024	VALVING COVER ASSEMBLY	1	
8		235790005	VALVING COVER	1	
9		235790007	SCREW	16	
10	*	208371001	WASHER	2	
11	*	140255041	SCREW-BLEEDING	2	
12	*	296278067	O-RING-2.62X145.72	1	
13		235790009	VALVING	1	
14		235790011	O-RING	1	
15		235790013	VALVE SPOOL	1	
16		235790015	SPRING	1	
17		235790017	WASHER	1	
18		235790019	SNAP RING	1	
19		235790021	BACK PLATE	1	
20		235790023	BOLT	6	
21		208163001	SHIM	1	
22		208164001	WASHER	1	
23		224897015	SNAP RING	1	
24		224897017	REPAIR KIT-PISTON	1	
	*	296273611	MOTOR-38.2CID W/O BRAKE D PREF		Includes All Items In Figure (S/N 2053-)

Hyd Motor Components Fig 4-15

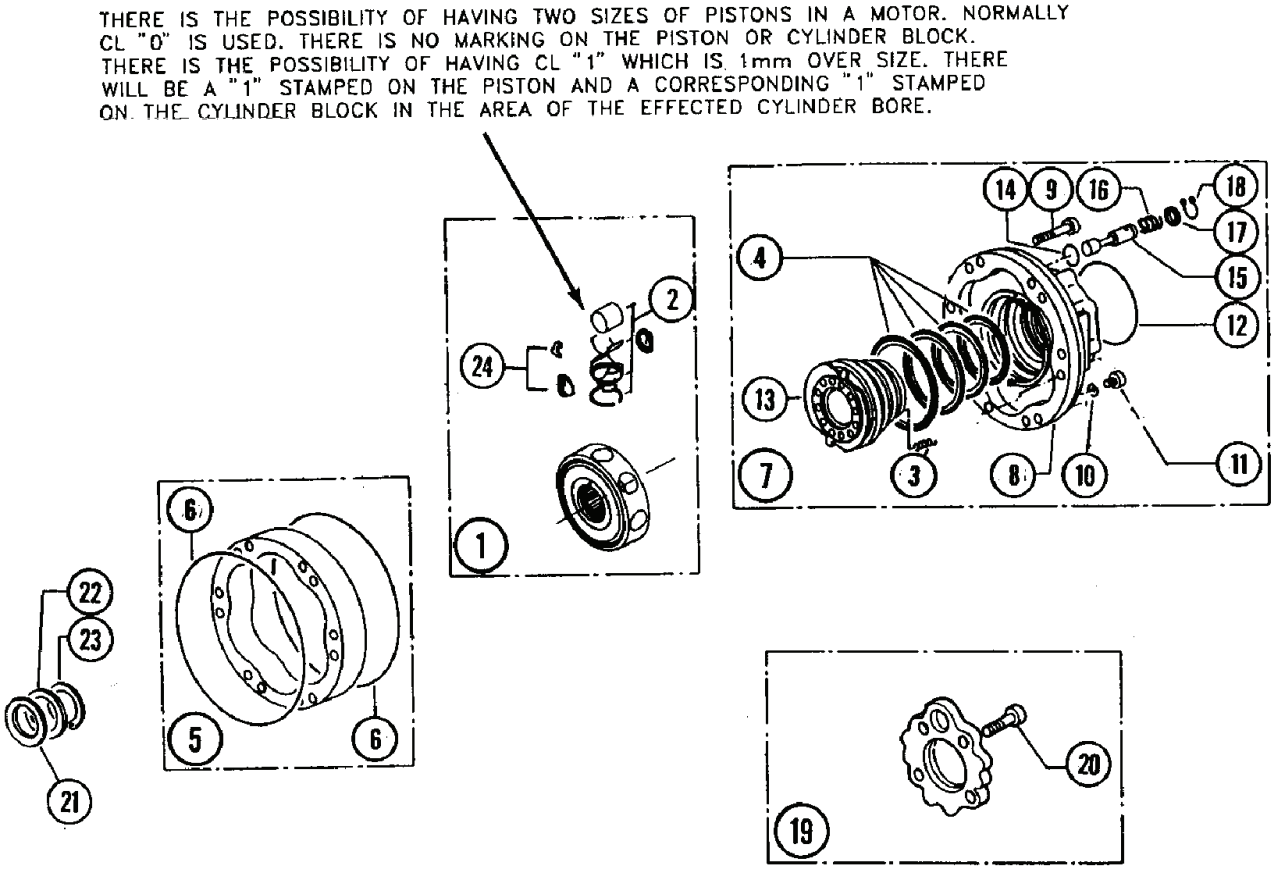
THERE IS THE POSSIBILITY OF HAVING TWO SIZES OF PISTONS IN A MOTOR. NORMALLY CL "0" IS USED. THERE IS NO MARKING ON THE PISTON OR CYLINDER BLOCK. THERE IS THE POSSIBILITY OF HAVING CL "1" WHICH IS 1mm OVER SIZE. THERE WILL BE A "1" STAMPED ON THE PISTON AND A CORRESPONDING "1" STAMPED ON THE CYLINDER BLOCK IN THE AREA OF THE EFFECTED CYLINDER BORE.



Hyd Motor Components Fig 4-15

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		224897003	CYLINDER BLOCK	1	
2		208148001	PISTON CL.1	AR	P/N Qty Of 1 = 1 Each
		224897005	PISTON CL “0”	AR	P/N Qty Of 1 = 1 Each
3		84550029	SPRING	8	
4		208157001	VALVE SEAL RING KIT	1	
5		208151001	CAM RING	1	
6		208152001	O-RING	2	
7		235790003	VALVING COVER ASSEMBLY	1	
8		235790005	VALVING COVER	1	
9		235790007	SCREW	16	
10		64078025	WASHER	2	
11		64078027	SCREW-BLEEDING	2	
12		83651025	O-RING-2.62X145.72	1	
13		235790009	VALVING	1	
14		235790011	O-RING	1	
15		235790013	VALVE SPOOL	1	
16		235790015	SPRING	1	
17		235790017	WASHER	1	
18		235790019	SNAP RING	1	
19		235790021	BACK PLATE	1	
20		235790023	BOLT	6	
21		208163001	SHIM	1	
22		208164001	WASHER	1	
23		224897015	SNAP RING	1	
24		224897017	REPAIR KIT-PISTON	1	
		235790001	MOTOR-38.2CID W/O BRAKE D PREF		Includes All Items In Figure

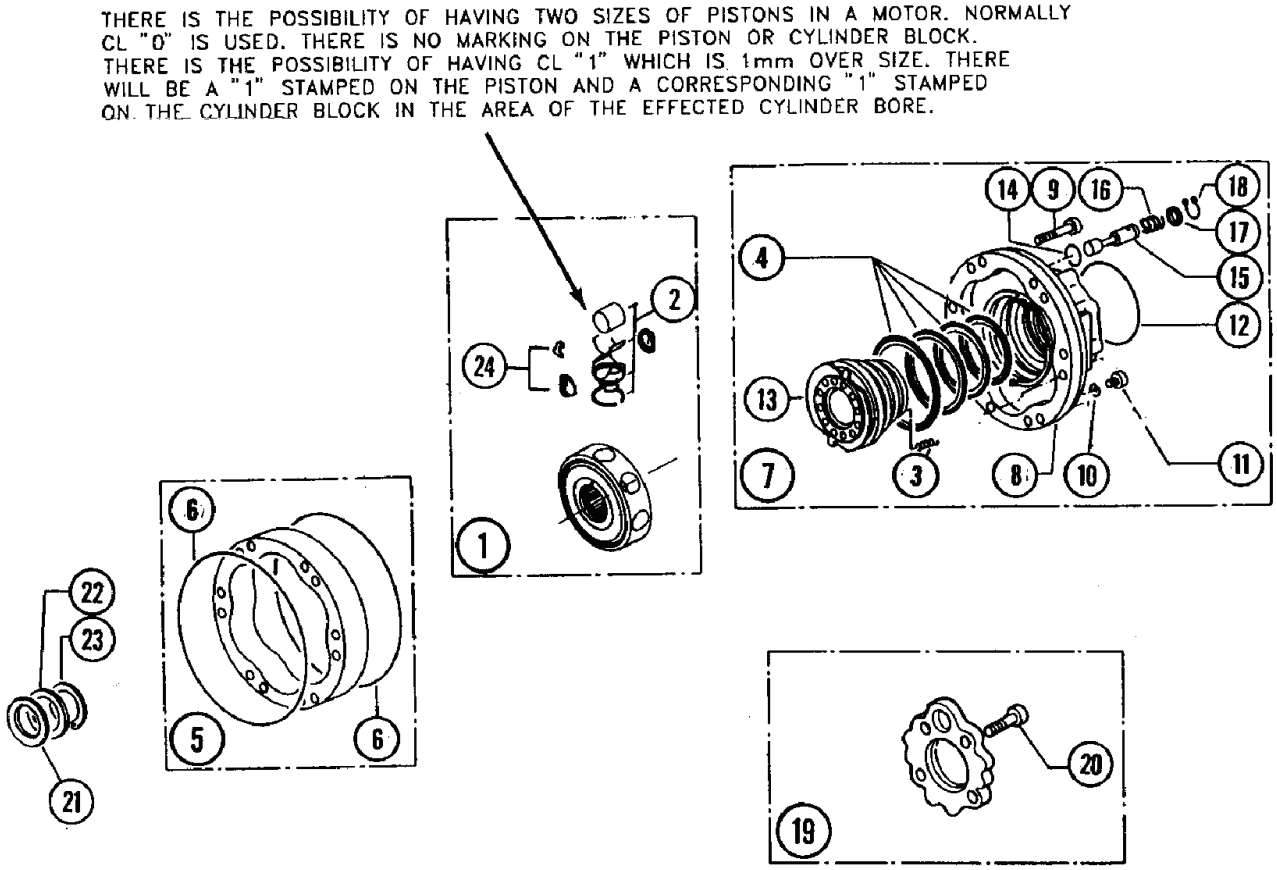
Hyd Motor Components (S/N 2053-) Fig 4-16r01



Hyd Motor Components (S/N 2053-) Fig 4-16r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2008		Change Numbers And Added Serial Numbers
1	*	296286311	CYLINDER BLOCK	1	(S/N 2053-)
2		208148001	PISTON CL.1	AR	P/N Qty Of 1 = 1 Each
		224897005	PISTON CL “0”	AR	P/N Qty Of 1 = 1 Each
3	*	84550029	SPRING	8	
4	*	256555027	VALVE SEAL RING KIT	1	
5		208151001	CAM RING	1	
6	*	256555021	O-RING	2	
7	*	296278024	VALVING COVER ASSEMBLY	1	
8		235790005	VALVING COVER	1	
9		235790007	SCREW	16	
10	*	208371001	WASHER	2	
11	*	140255041	SCREW-BLEEDING	2	
12	*	296278067	O-RING-2.62X145.72	1	
13		235790009	VALVING	1	
14		235790011	O-RING	1	
15		235790013	VALVE SPOOL	1	
16		235790015	SPRING	1	
17		235790017	WASHER	1	
18		235790019	SNAP RING	1	
19		235790021	BACK PLATE	1	
20		235790023	BOLT	6	
21		208163001	SHIM	1	
22		208164001	WASHER	1	
23		224897015	SNAP RING	1	
24		224897017	REPAIR KIT-PISTON	1	
	*	296273612	MOTOR-38.2CID W/O BRAKE G PREF		Includes All Items In Figure (S/N 2053-)

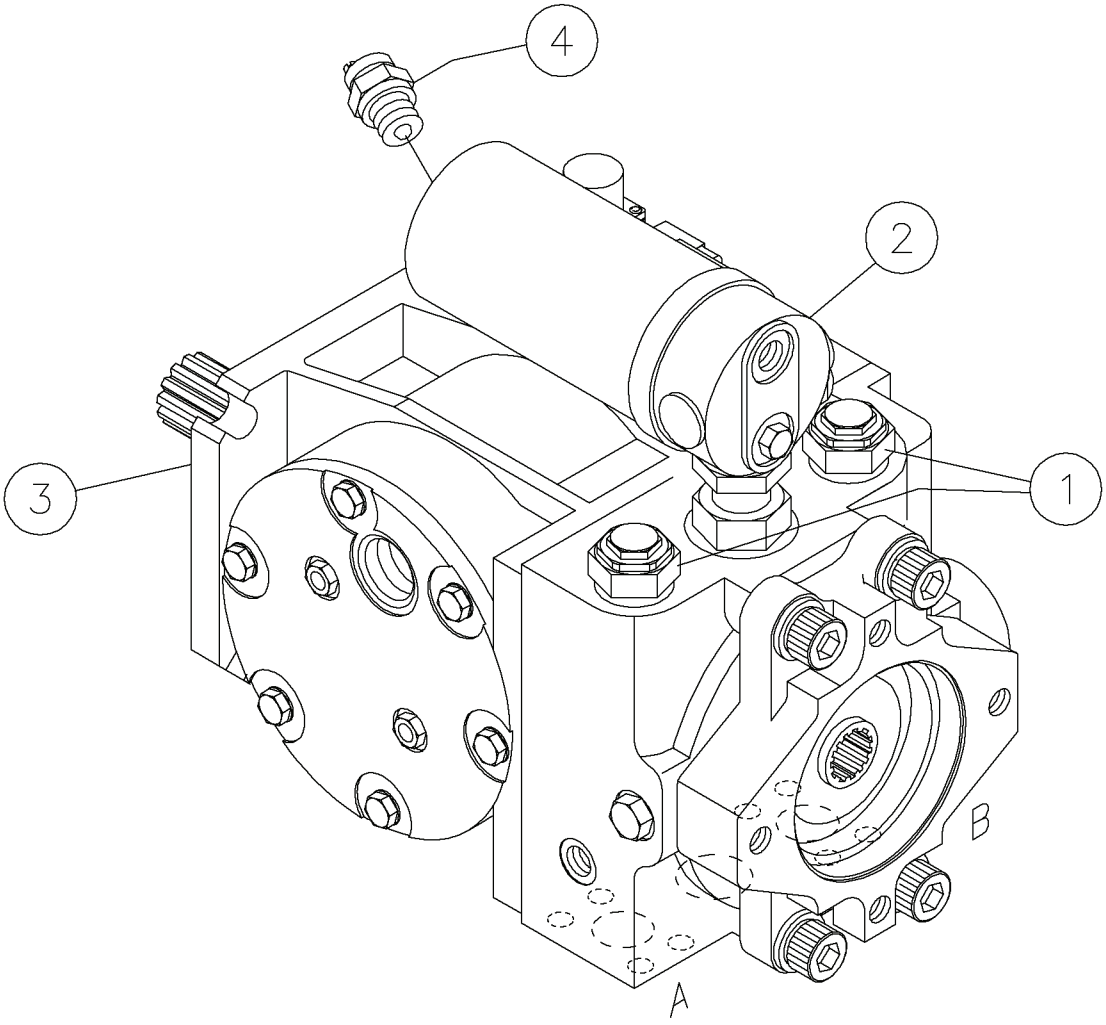
Hyd Motor Components Fig 4-16



Hyd Motor Components Fig 4-16

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		224897003	CYLINDER BLOCK	1	
2		208148001	PISTON CL.1	AR	P/N Qty Of 1 = 1 Each
		224897005	PISTON CL “0”	AR	P/N Qty Of 1 = 1 Each
3		84550029	SPRING	8	
4		208157001	VALVE SEAL RING KIT	1	
5		208151001	CAM RING	1	
6		208152001	O-RING	2	
7		235790003	VALVING COVER ASSEMBLY	1	
8		235790005	VALVING COVER	1	
9		235790007	SCREW	16	
10		64078025	WASHER	2	
11		64078027	SCREW-BLEEDING	2	
12		83651025	O-RING-2.62X145.72	1	
13		235790009	VALVING	1	
14		235790011	O-RING	1	
15		235790013	VALVE SPOOL	1	
16		235790015	SPRING	1	
17		235790017	WASHER	1	
18		235790019	SNAP RING	1	
19		235790021	BACK PLATE	1	
20		235790023	BOLT	6	
21		208163001	SHIM	1	
22		208164001	WASHER	1	
23		224897015	SNAP RING	1	
24		224897017	REPAIR KIT-PISTON	1	
		235791001	MOTOR-38.2CID W/O BRAKE G PREF		Includes All Items In Figure

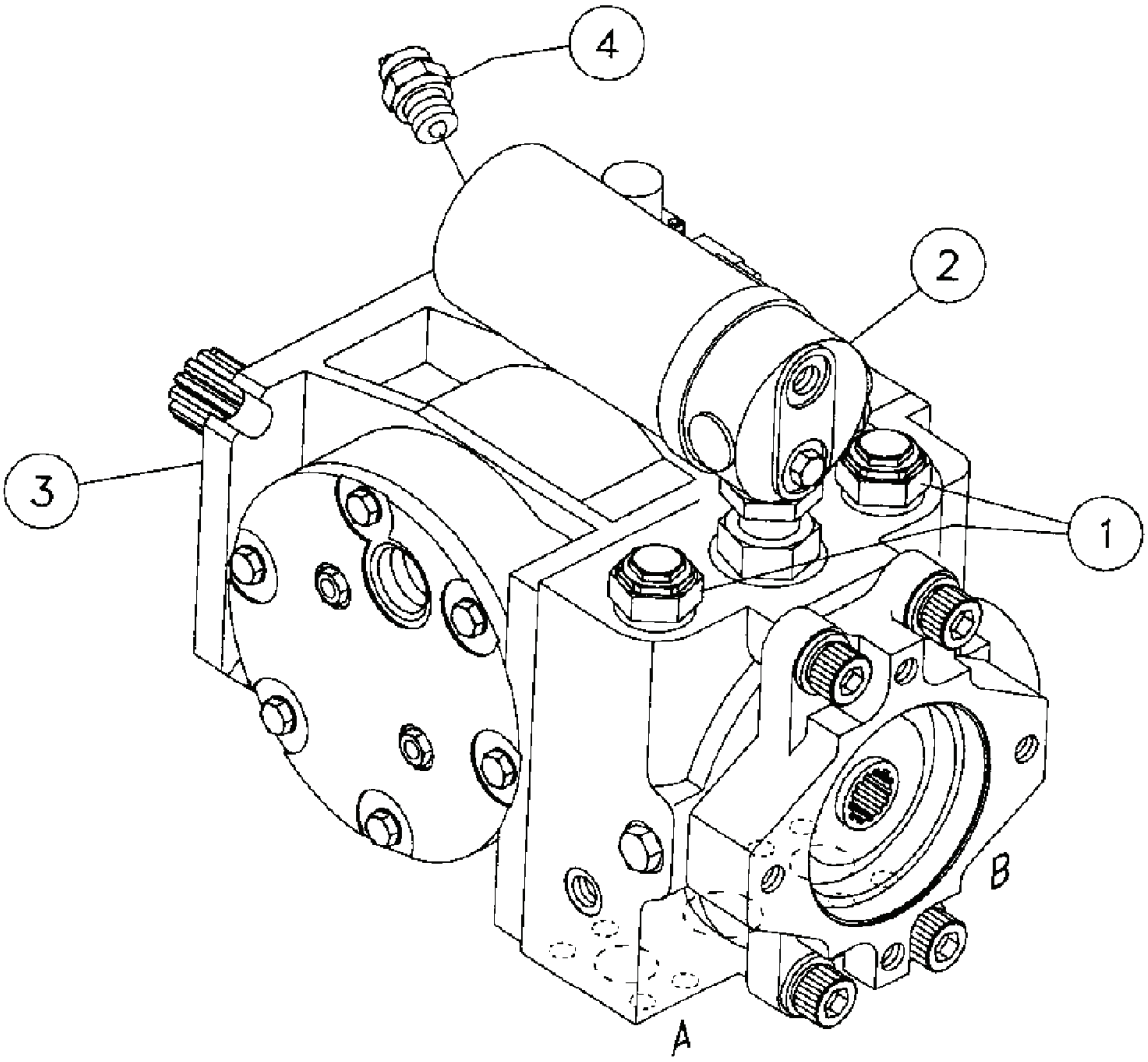
Hyd Pump Components Fig 4-17r01



Hyd Pump Components Fig 4-17r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		85642007	VALVE-MULTI-FUNCTION	2	Note: 1
		85642009	O-RING (OUTER)	A/R	1 Per Valve
		85642011	O-RING (INNER)	A/R	1 Per Valve
2		91019003	FILTRATION MANIFOLD KIT	1	
		81902001	FILTER-OIL	1	
3		85642079	CARRIER-SEAL	1	
		85642081	SEAL LIP	1	
		85642083	O-RING	1	
4		225187003	NEUTRAL START SWITCH	1	
		228116001	PUMP ASSY.-HYDRAULIC		S/N 101-1911
	*	287731001	PUMP - 90 SERIES 3.35 C.I.R.		S/N 1912-
		Note: 1	Specify Pressure Setting		Pressure Setting Is 6090 PSI (420 BAR)

Hyd Pump Components Fig 4-17

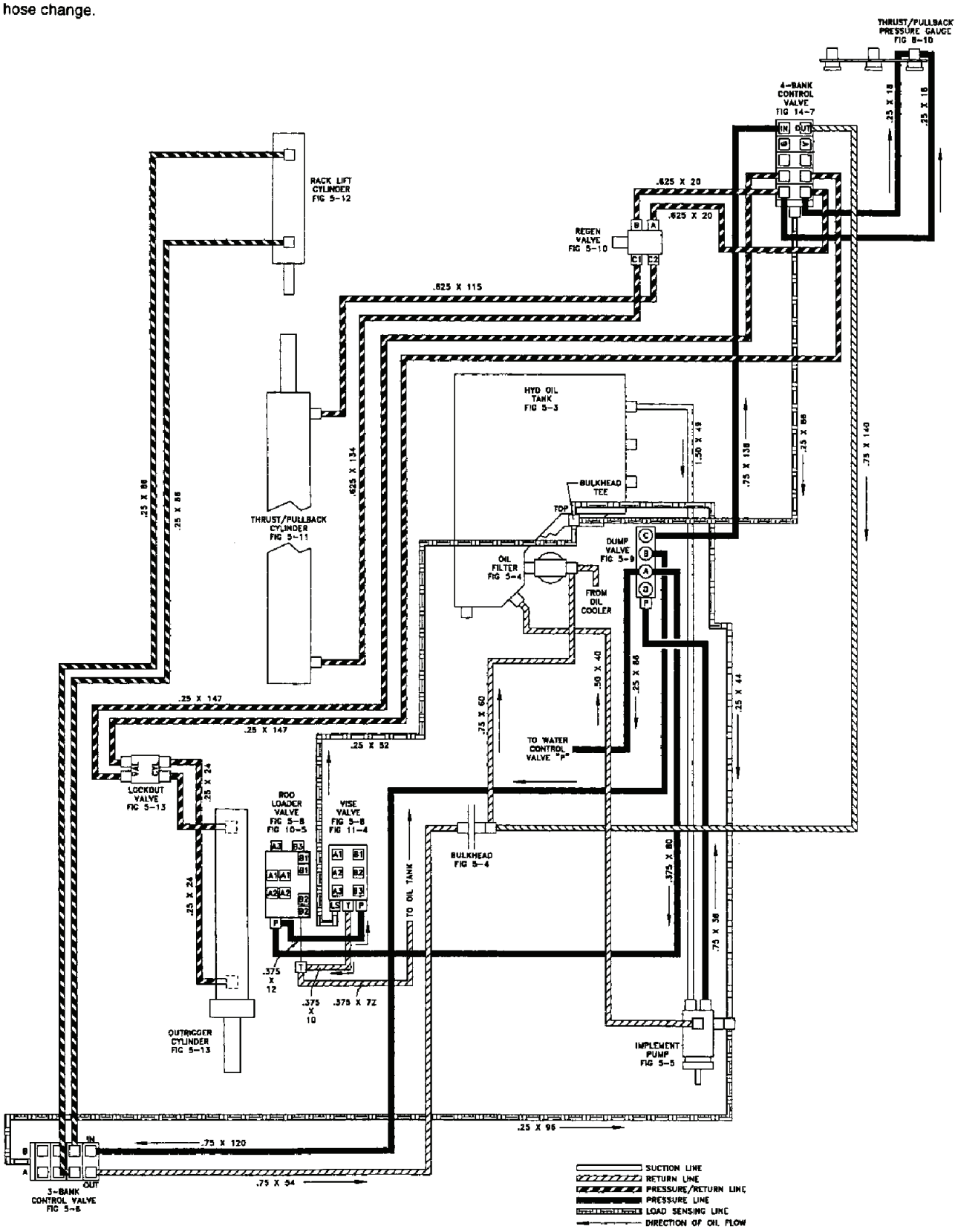


Hyd Pump Components Fig 4-17

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		85642007	VALVE-MULTI-FUNCTION	2	Note: 1
		85642009	O-RING (OUTER)	A/R	1 Per Valve
		85642011	O-RING (INNER)	A/R	1 Per Valve
2		91019003	FILTRATION MANIFOLD KIT	1	
		81902001	FILTER-OIL	1	
3		85642079	CARRIER-SEAL	1	
		85642081	SEAL LIP	1	
		85642083	O-RING	1	
4		225187003	NEUTRAL START SWITCH	1	
		228116001	PUMP ASSY.-HYDRAULIC		
		Note: 1	Specify Pressure Setting		Pressure Setting Is 6090 PSI (420 BAR)

Hyd Components Location Diagram - Implement Drive Fig 5-1r01

Revised February 1999 due to hose change.



Hyd Components Location Diagram - Implement Drive Fig 5-1r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Illustration.

Miscellaneous Supples Fig 5-2

CORDURA SLEEVES



INSIDE DIAMETER	PART NUMBER
.71	83726-001
1.22	66094-001
1.42	67264-001
1.59	69129-001
1.81	53840-001
2.37	53841-001

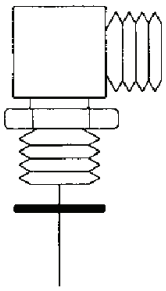
NOTE: SPECIFY LENGTH WHEN ORDERING

TIE STRAPS



LENGTH	PART NUMBER
4 IN.	78657-001
8 IN.	59634-001
15 IN.	58151-001

O-RINGS



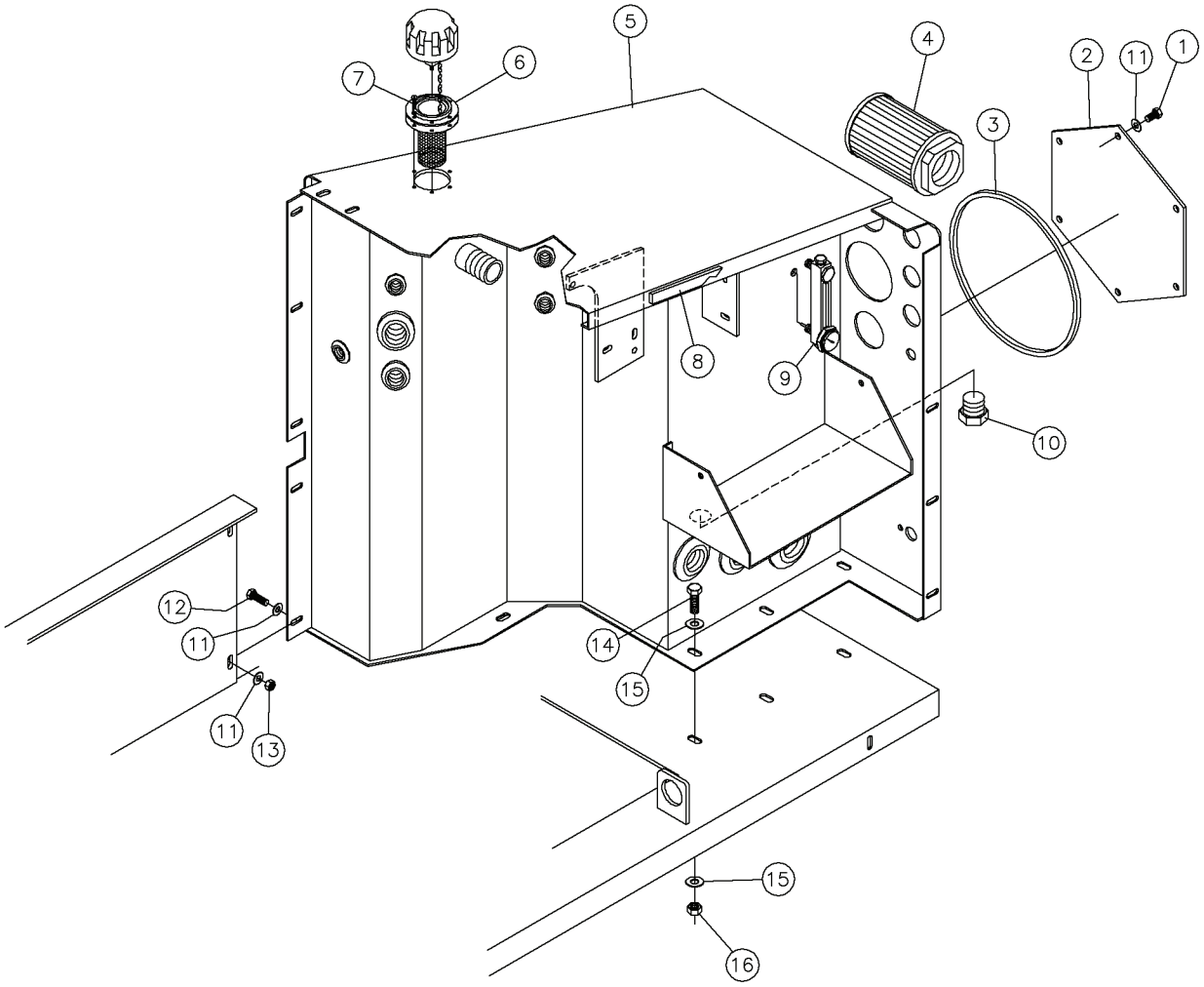
SAE FITTING SIZE	REPLACEMENT O-RING PART NO.
4M	78185-027
5M	53649-081
6M	59088-057
8M	59088-053
10M	792-029
12M	85705-035
14M	64082-019
16M	81580-001
20M	93316-001

NOTE: O-RINGS LISTED ARE 90 DURAMETER

Miscellaneous Supples Fig 5-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
			CORDURA SLEEVES		
		83726001	INSIDE DIAMETER .71		
		66094001	INSIDE DIAMETER 1.22		
		67264001	INSIDE DIAMETER 1.42		
		69129001	INSIDE DIAMETER 1.59		
		53840001	INSIDE DIAMETER 1.81		
		53841001	INSIDE DIAMETER 2.37		
		Note:	SPECIFY LENGTH WHEN ORDERING		
			TIE STRAPS		
		78657001	LENGTH 4IN.		
		59634001	LENGTH 8 IN.		
		58151001	LENGTH 15 IN.		
			REPLACEMENT O-RINGS		
		78185027	SAE FITTING SIZE 4M		
		53649081	SAE FITTING SIZE 5M		
		59088057	SAE FITTING SIZE 6M		
		59088053	SAE FITTING SIZE 8M		
		792029	SAE FITTING SIZE 10M		
		85705035	SAE FITTING SIZE 12M		
		64082019	SAE FITTING SIZE 14M		
		81580001	SAE FITTING SIZE 16M		
		93316001	SAE FITTING SIZE 20M		
			NOTE: O-RINGS LISTED ARE 90 DURAMETER		

Hyd Oil Tank Assy Fig 5-3r02

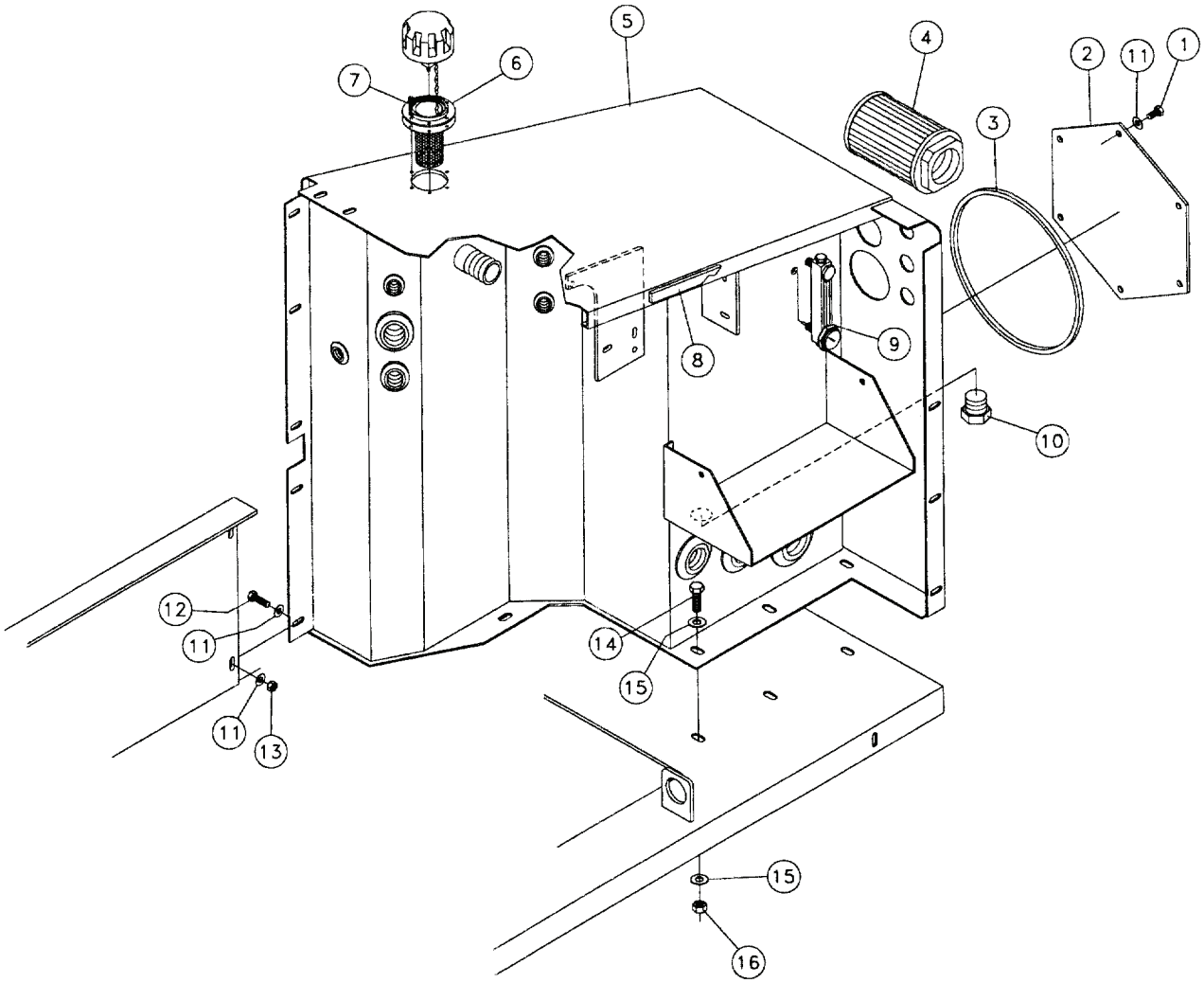


Hyd Oil Tank Assy Fig 5-3r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLT	6	
2		96291001	PLATE-CLEANOUT PORT	1	
3		78544001	O-RING AS-378 B46	1	
4		224944001	STRAINER-SUCTION	1	
5	*	287645003	TANK-HYD OIL	1	
6		235808001	CAP-FILLER/BREATHER W/O RELIEF	1	
7		1802006	BOLT-10-24 X 3/4 RND HD STOVE	6	
		480001	WASHER-3/16 S/T LOCK	6	
8		245059001	TAPE-URETHANE .75”WX 36 YD ROL	AR	P/N Qty Of 1 = 1 - 36 Yard Roll
9		81590001	GAUGE-SIGHT	1	
10		81214001	PLUG- 16M	1	
11		235713001	WASHER-3/8 SAE HARD ZINC PLTD	10	
12		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	2	
13		235725001	NUT-3/8-16 GR8 ZINC PLTD	2	
14		235721001	BOLT-1/2-13X1 1/2 GR8 ZINC PLT	6	
15		485025	WASHER-1/2 FLAT-HARDENED-ZINC	12	
16		235731001	NUT-1/2-13 GR8 ZINC PLTD	6	

Hyd Oil Tank Assy Fig 5-3r01

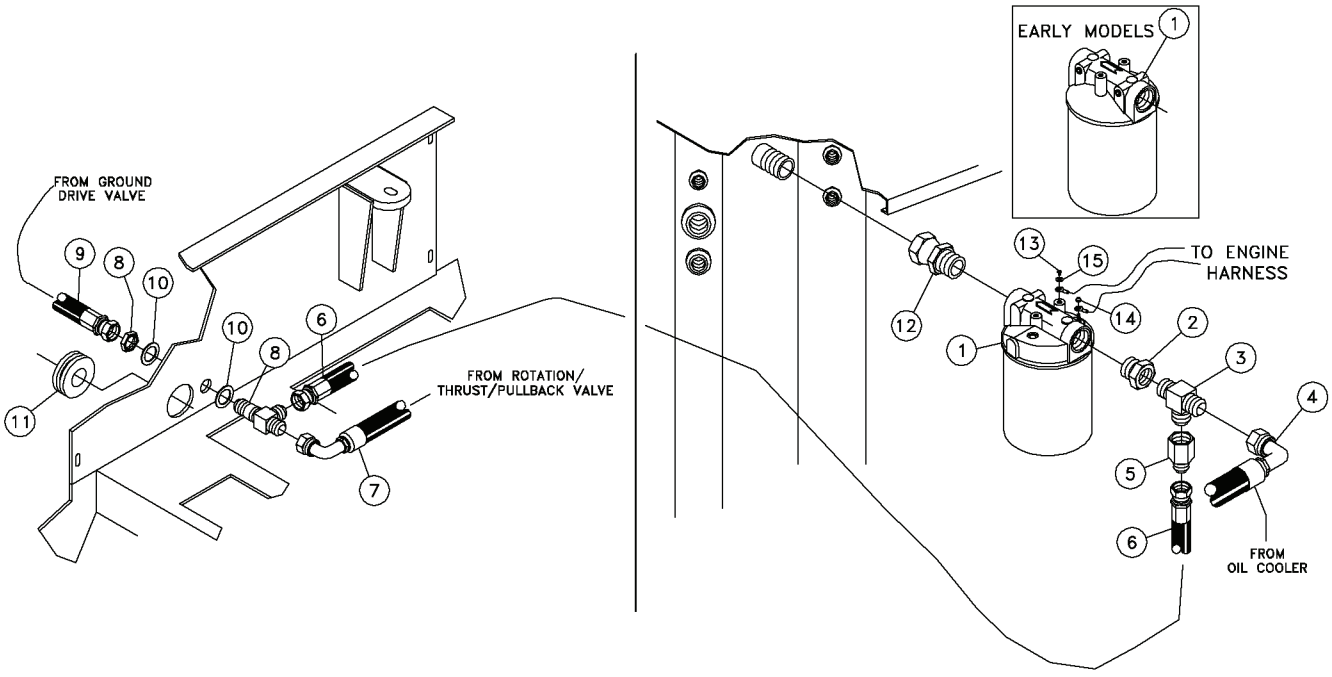
Revised February 2000 due to update in parts list. Changed part marked with *.



Hyd Oil Tank Assy Fig 5-3r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Parts List
1		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLT	6	
2		96291001	PLATE-CLEANOUT PORT	1	
3		78544001	O-RING AS-378 B46	1	
4		224944001	STRAINER-SUCTION	1	
5	*	238594003	TANK-HYDRAULIC OIL	1	
6		235808001	CAP-FILLER/BREATHER W/O RELIEF	1	
7		1802006	BOLT-10-24 X 3/4 RND HD STOVE	6	
		480001	WASHER-3/16 S/T LOCK	6	
8		245059001	TAPE-URETHANE .75”WX 36 YD ROL	AR	P/N Qty Of 1 = 1 - 36 Yard Roll
9		81590001	GAUGE-SIGHT	1	
10		81214001	PLUG- 16M	1	
11		235713001	WASHER-3/8 SAE HARD ZINC PLTD	10	
12		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	2	
13		235725001	NUT-3/8-16 GR8 ZINC PLTD	2	
14		235721001	BOLT-1/2-13X1 1/2 GR8 ZINC PLT	6	
15		485025	WASHER-1/2 FLAT-HARDENED-ZINC	12	
16		235731001	NUT-1/2-13 GR8 ZINC PLTD	6	

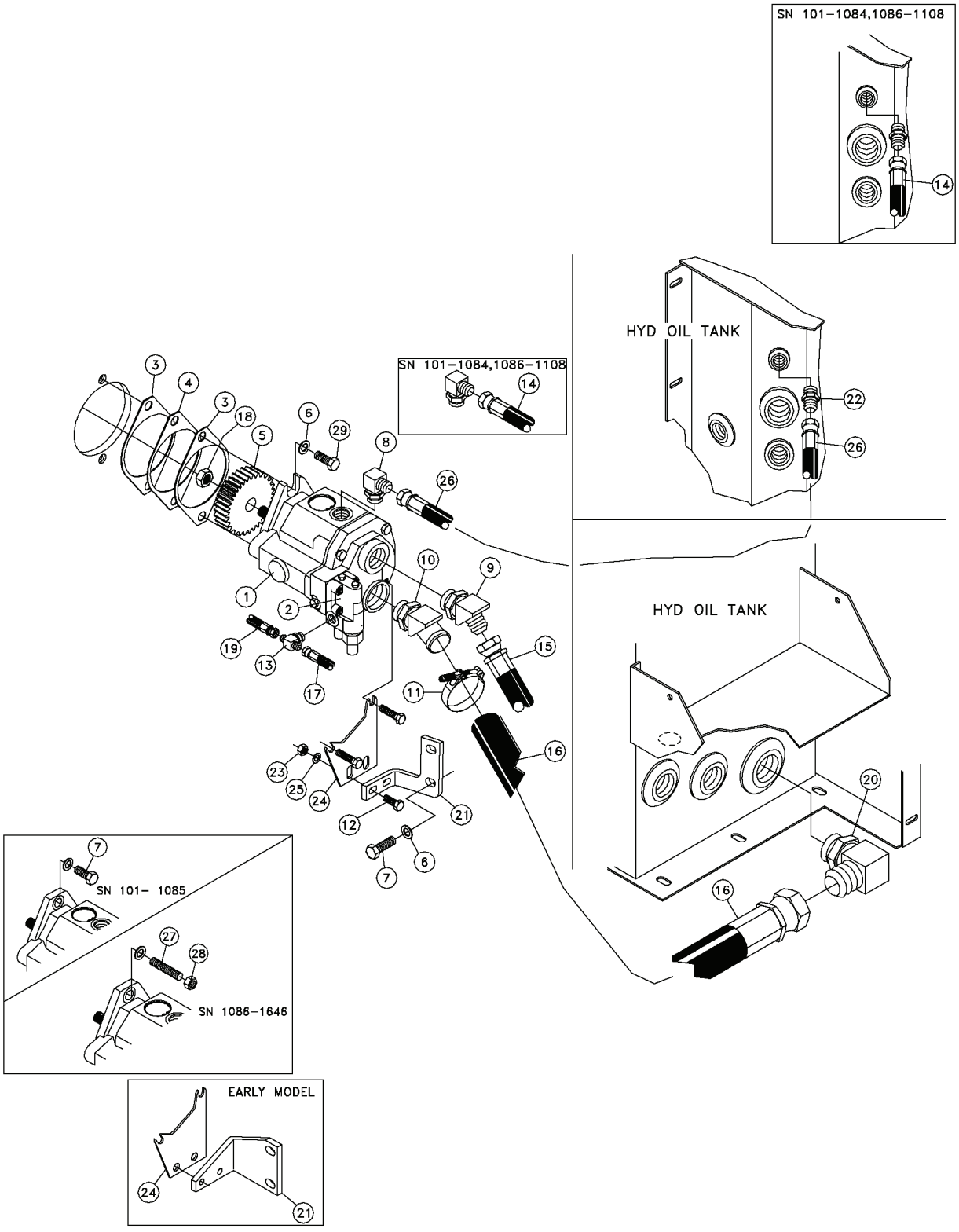
Hyd Oil Filter Assy Fig 5-4r02



Hyd Oil Filter Assy Fig 5-4r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		283509001	FITLER - HYDRAULIC ASSEMBLY	1	
		251137001	FILTER -10 MICRON HYDRAULIC	1	S/N 101-1548, 1550-1668
	*	287553001	FILTER-HYD ASSY W/ BYPASS INDICATOR	1	S/N 1549, 1669 -
2		730019	1 1/4” X 1” HEX BUSHING STEEL	1	
3		70030001	16M JIC BCHX16M JIC X 1”M TEE	1	
4		53846249	HOSE-1X56 16FSJIC/16FSJIC 90	1	
5		70028001	FITTING-16F JICX 12M JIC	1	
6		53845111	3/4X60 12FS JIC(G2AT-HMP)100R2	1	
7		53845813	HOSE-3/4X140 12FSJICST/90D3000	1	
8		96075001	FITTING-12MJIC BLKHD RUN TEE	1	
9		53845171	HOSE-3/4X54 12FS JIC 3000 PSI	1	
10		13884001	WASHER-1”2PIECE SELF-LOCK LOCK	1	
11		1865001	GROMMET - 1/4 X 2 1/2 (YELLOW)	1	
12	*	287575001	FITTING - 20M NPT X 20F NPT SWIVEL	1	S/N 1669 -
13	*	235740001	BOLT-5/16-18X1/2 GR8 ZINC PLT	1	S/N 1549, 1669 -
14	*	99042001	NUT - NYLOCK - 10 - 24 - GR2 - CZ	1	S/N 1549, 1669 -
15	*	235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	S/N 1549, 1669 -

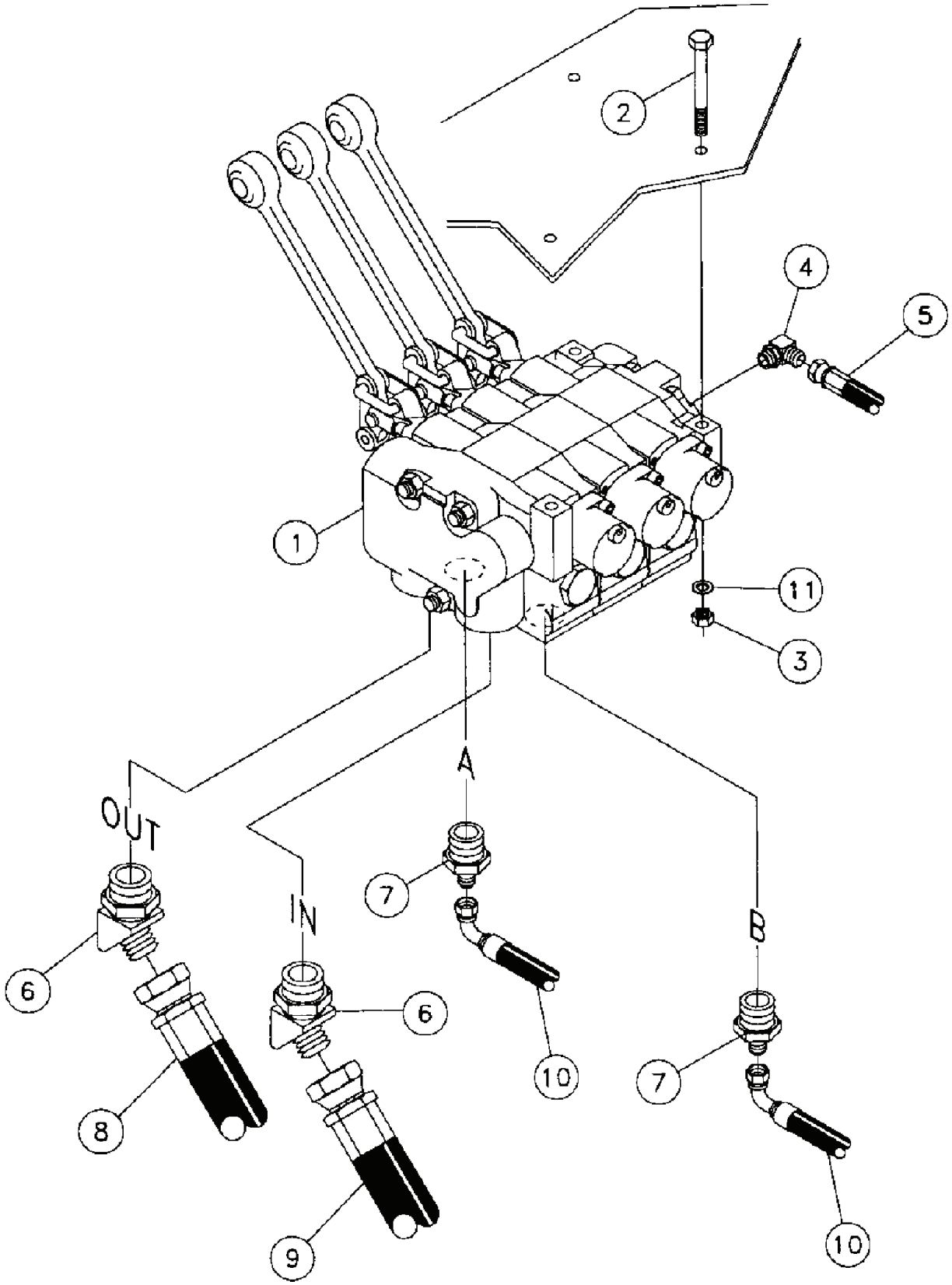
Implement Pump Assy Fig 5-5r04



Implement Pump Assy Fig 5-5r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		240883001	PUMP-2.77 CID PFC	1	
		113253003	SEAL KIT-PUMP/COMPENSATOR	1	
2		99687005	COMPENSATOR ASSEMBLY	1	
3		279109001	GASKET ENGINE OUTPUT	2	
4		279110001	SPACER-ENGINE OUTPUT	1	
5		103031001	GEAR	1	
6		238249001	12 MM HARD WASHER Y/ZINC	4	
7		250516001	BOLT-12M X 35M GR. 8 Y/ZINC	2	
8		59407001	8M JIC X 10M ADJ. 90 DEG. ELBOW	1	
9		81212001	FITTING-16M X 12M JIC 45 ELBOW	1	
10		103997001	HOSE INSER-20M X 1 1/2 45 DEG.	1	
11	*	287520001	CLAMP - 2.13 OD BAND TBC213	2	Replaces 238094001
12		235727001	BOLT-3/8-16 X 1 GR8 HEX ZINC PLT	2	
13		81343001	4M (BCH) X 4M JIC X 4M JIC TEE	1	
14		53844151	HOSE-1/2X40 8FS JIC 3000 PSI	1	S/N 101-1084, 1086-1108
15		53845479	HOSE-3/4 X 38 12FS JIC 3000 PSI	1	
16		94572013	HOSE-1 1/2 X 49 24FS JIC/NONE 150	1	
17		53843533	HOSE-1/4 X 44 4FS JIC ST/4FS JC90	1	
18		103030001	NUT	1	
19		53843487	HOSE-1/4 X 96 4FS JIC 3000 PSI	1	
20		81921001	FITTING-24M X 24M JIC 90 DEG.	1	
21		238514001	BRACKET-PUMP SUPPORT	1	
22		53824001	FITTING-#8M O-RING-#8M JIC ST.	1	
23		235725001	NUT-3/8-16 GR8 ZINC PLTD	2	
24		235805001	PLATE-PUMP BRACKET	1	
25		235713001	WASHER-3/8 SAE HARD ZINC PLTD	2	
26		53844657	HOSE 1/2X43 8FSJICST 3000 PSI	2	S/N 1085, 1109 -
27		282812001	BOLT - DBL END M12 - 1.75 X 65MM STUD	2	S/N 1110-1646
28		575001	NUT-HEX M12-1.75 CL8 YZ D934	2	S/N 1110-1646
29	*	507407040	SCREW-HCS,M12-1.75X40,10.9,YZ	2	Replaces 507093040 S/N 1647 -

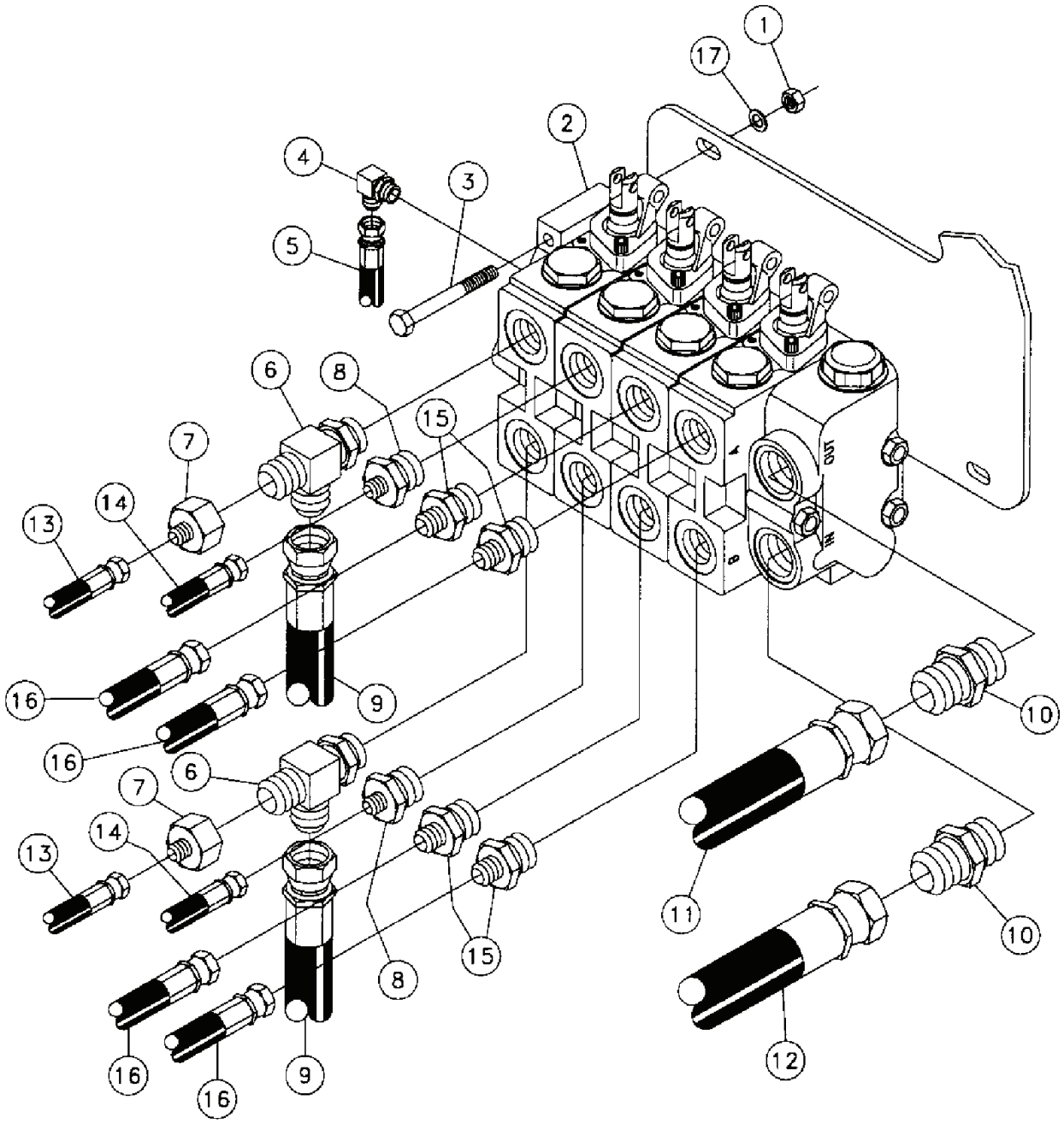
Control Valve Assy - 3 Spool Fig 5-6



Control Valve Assy - 3 Spool Fig 5-6

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		236457001	VALVE-3 SPOOL CONTROL	1	Breakdown Fig 3-8
2		238212001	BOLT-5/16-18 X 3” GR 8 HEX YZI	3	
3		235741001	NUT-5/16-18 GR8 ZINC PLTD	3	
4		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	1	
5		53843487	HOSE-1/4X96 4FS JIC 3000 PSI	1	
6		60718001	12M JICX12M ADJ.45 DEG.EL	2	
7		101507001	FITTING-10MORX4MJIC STR.	2	
8		53845171	HOSE-3/4X54 12FS JIC 3000 PSI	1	
9		240900001	HOSE-3/4X120 12FS JIC ST/ST3000	1	
10		53843523	HOSE-1/4X86 4FS JIC ST/4FSJC90	2	
11		235714001	WASHER-5/16 SAE HARD ZINC PLTD	3	

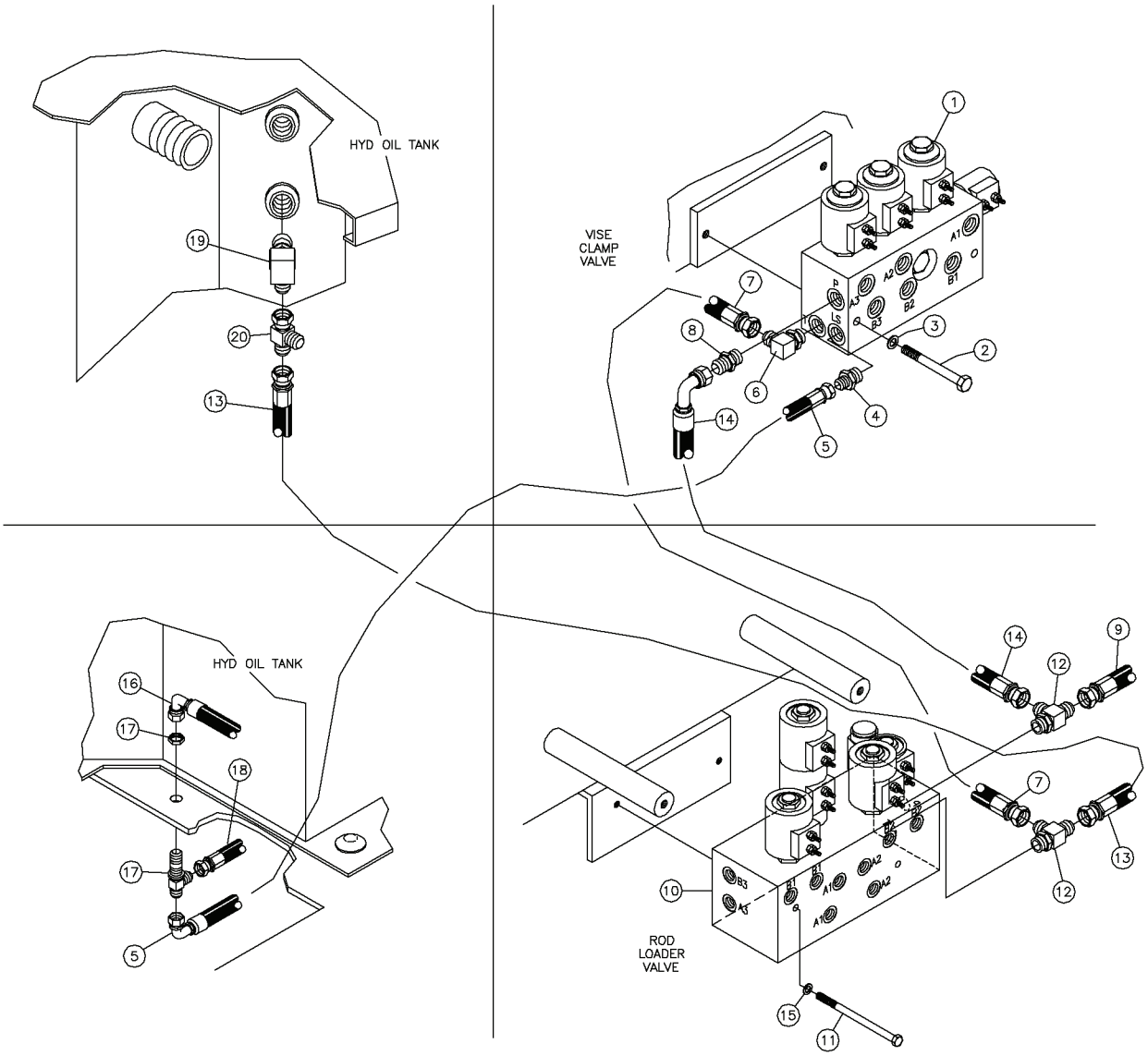
Control Valve Assy - 4 Spool Fig 5-7



Control Valve Assy - 4 Spool Fig 5-7

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		235741001	NUT-5/16-18 GR8 ZINC PLTD	3	
2		236458001	VALVE-4 SPOOL CONTROL	1	Breakdown Fig 5-15
3		238212001	BOLT-5/16-18 X 3” GR 8 HEX YZI	3	
4		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	1	
5		53843331	HOSE-1/4X86 4FS JIC 3000 PSI	1	
6		100873001	FITTING-10MX10MJIC RUN TEE	2	
7		65567001	10F JIC X 4M JIC	2	
8		101507001	FITTING-10MORX4MJIC STR.	2	
9		53842261	HOSE-5/8X20 10FSJIC 3000 PSI	2	
10		53828001	#12M O-RING-#12M JIC ST.	2	
11		53845813	HOSE-3/4X140 12FSJICST/90D3000	1	
12		53845519	HOSE-3/4 X 138 JIC 3100 PSI	1	
13		53843741	HOSE-1/4X18 4FSJICST/90 3000#	2	
14		240901001	HOSE-1/4X147 4FSJIC ST/90 3000	2	
15		57946001	10MX#6JIC ST ADAPTER	4	
16		57940583	HOSE-3/8X18 6FS JIC 6FS JIC 90	4	
17		235714001	WASHER-5/16 SAE HARD ZINC PLTD	3	

Solenoid Valve Assy (Vise Clamp & Rod Loader) Fig 5-8r03

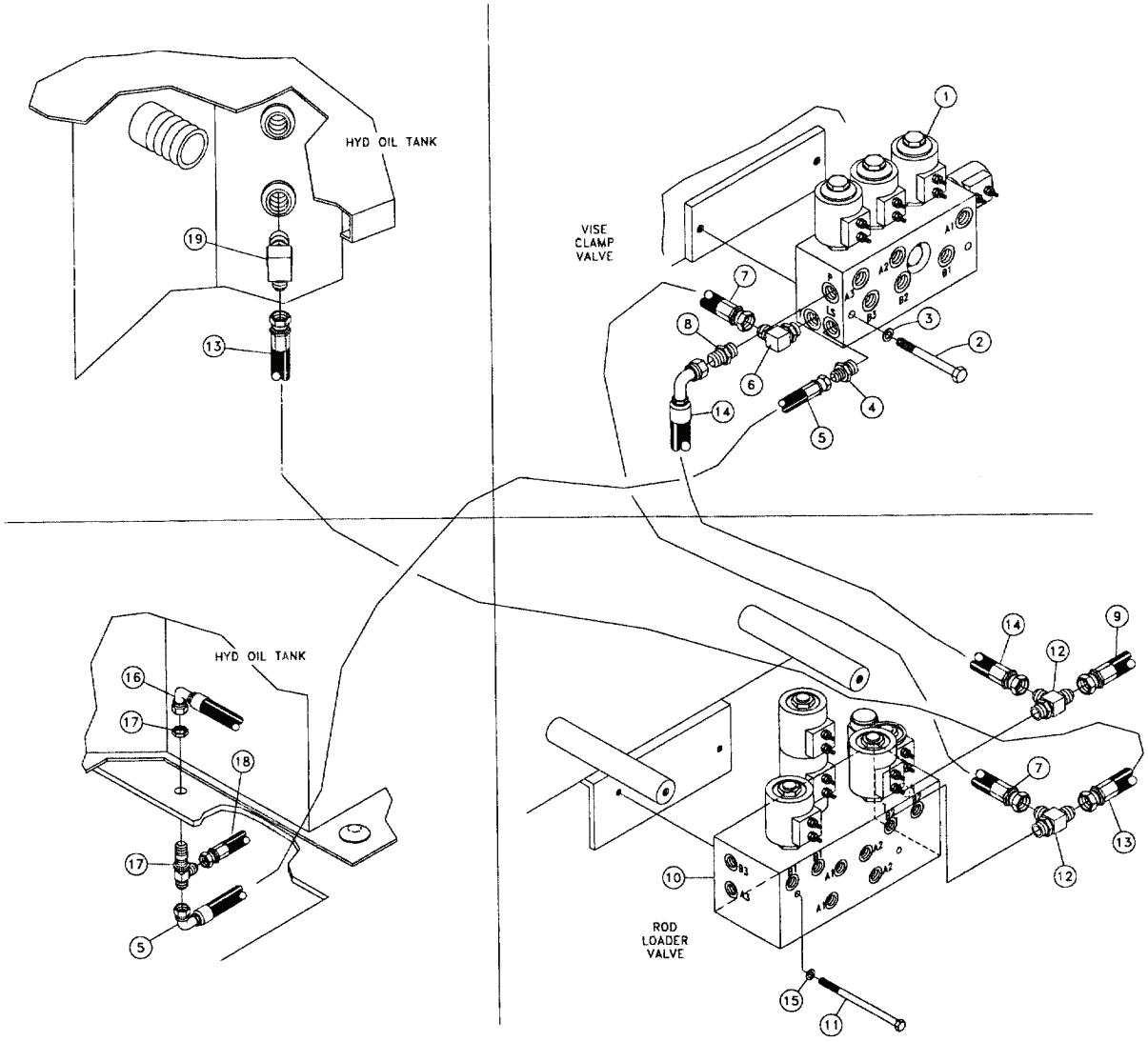


Solenoid Valve Assy (Vise Clamp & Rod Loader) Fig 5-8r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		240941001	VALVE-VISE	1	Breakdown Fig 5-21
2		238212001	BOLT-5/16-18 X 3” GR8 HEX YZI	2	
3		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	
4		57968001	6M O-RING 4M JIC STRAIGHT	1	
5		236449001	HOSE-1/4X52 4FSJIC ST/90 3000	1	
6		59426001	FITTING-6M JICX6M ADJ 90 ELBOW	1	
7		57940201	HOSE-3/8X10 6FS JIC (100R2)	1	
8		65565001	FITTING-6M X 6M JIC ST.	1	
9		57940521	HOSE-3/8X80 6FS JIC 3000 PSI	1	
10		240942001	VALVE-ROD LOADER	1	Breakdown Fig 5-22
11		238243001	BOLT 1/4”-20 X 4” GR8 HEX Y/Z	2	
12		68774001	FITTING-6MX6M JIC (RUN)X6M JIC	2	
13		57940051	HOSE-3/8X72 6FS JIC (100R1)	1	
14		236495001	HOSE-3/8X12 6FS JIC ST/90 3000	1	
15		235716001	WASHER-1/4 SAE HARD ZINC PLTD	2	
16		53843533	HOSE-1/4X44 4FS JIC ST/4FSJC90	1	
17		88545001	FITTING-4M JIC BLKHD RUN TEE	1	
18		53843331	HOSE-1/4X86 4FS JIC 3000 PSI	1	
19		57954001	8MX6 JIC 90 DEG	1	
20	*	59427001	TEE-6MJ-6FSJ-6MJ	1	

Solenoid Valve Assy (Vise Clamp & Rod Loader) Fig 5-8r02

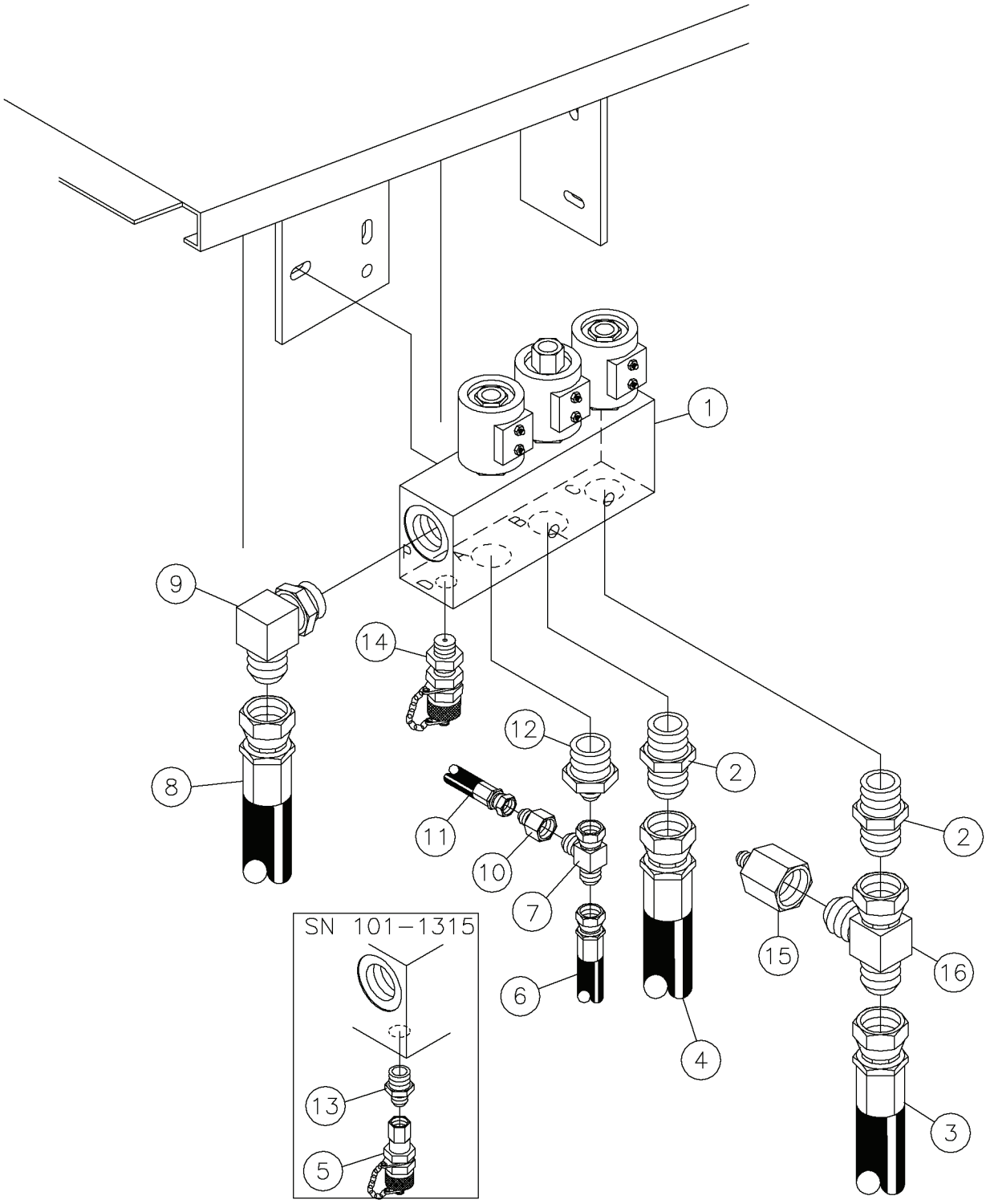
Revised February 2000 due to update in parts list. Added breakdown marked with *.



Solenoid Valve Assy (Vise Clamp & Rod Loader) Fig 5-8r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Parts List
1		240941001	VALVE-VISE	1	Breakdown Fig 5-21
2		238212001	BOLT-5/16-18 X 3” GR8 HEX YZI	2	
3		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	
4		57968001	6M O-RING 4M JIC STRAIGHT	1	
5		236449001	HOSE-1/4X52 4FSJIC ST/90 3000	1	
6		59426001	FITTING-6M JICX6M ADJ 90 ELBOW	1	
7		57940201	HOSE-3/8X10 6FS JIC (100R2)	1	
8		65565001	FITTING-6M X 6M JIC ST.	1	
9		57940521	HOSE-3/8X80 6FS JIC 3000 PSI	1	
10	*	240942001	VALVE-ROD LOADER	1	Breakdown Fig 5-22
11		238243001	BOLT 1/4”-20 X 4” GR8 HEX Y/Z	2	
12		68774001	FITTING-6MX6M JIC (RUN)X6M JIC	2	
13		57940051	HOSE-3/8X72 6FS JIC (100R1)	1	
14		236495001	HOSE-3/8X12 6FS JIC ST/90 3000	1	
15		235716001	WASHER-1/4 SAE HARD ZINC PLTD	2	
16		53843533	HOSE-1/4X44 4FS JIC ST/4FSJC90	1	
17		88545001	FITTING-4M JIC BLKHD RUN TEE	1	
18		53843331	HOSE-1/4X86 4FS JIC 3000 PSI	1	
19		57954001	8MX6 JIC 90 DEG	1	

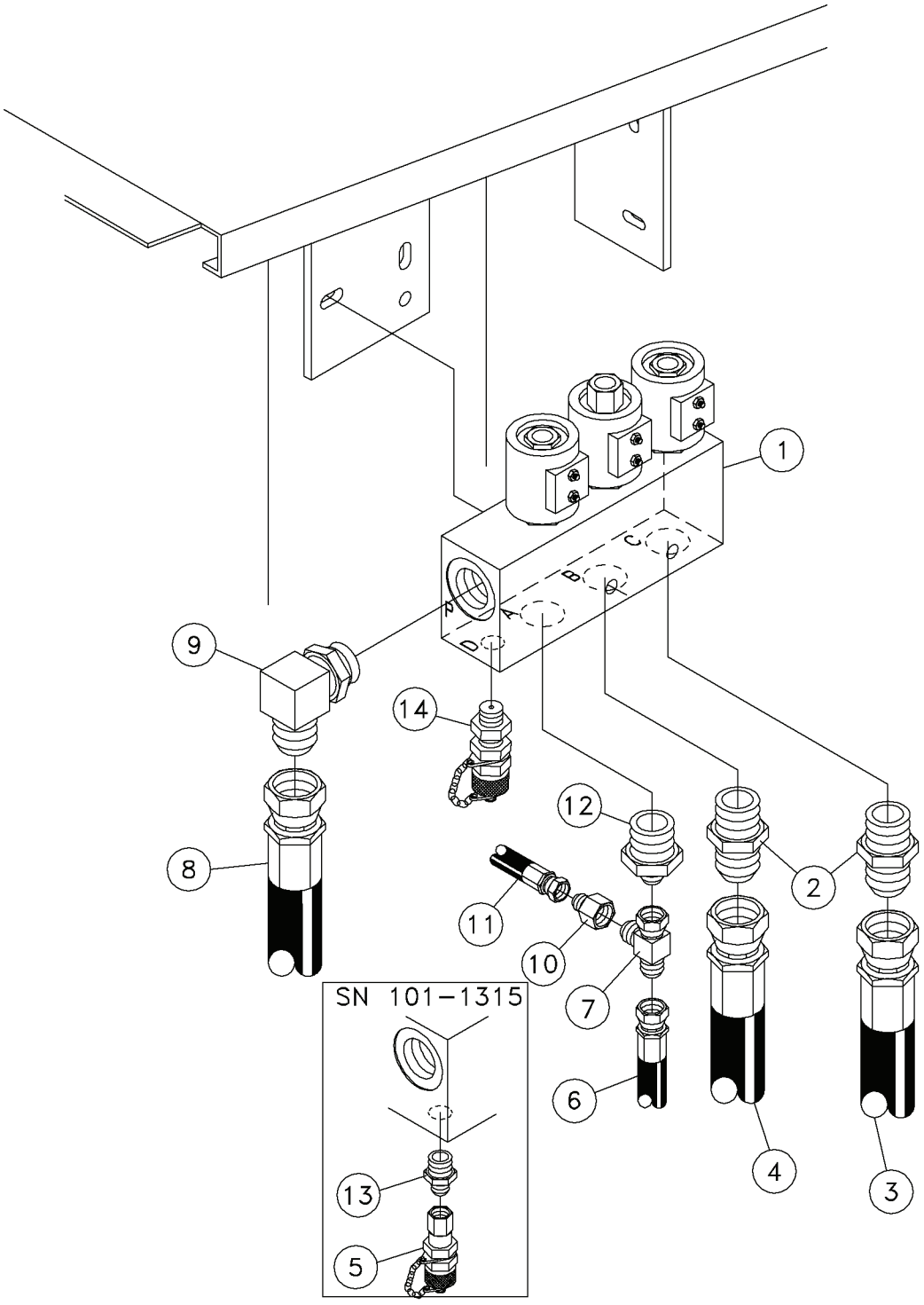
Dump Valve Assy Fig 5-9r04



Dump Valve Assy Fig 5-9r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		279107001	VALVE - DIVERTER MANIFOLD	1	Breakdown Fig 5-16
2		53828001	#12M O-RING -#12M JIC ST.	2	
3		53845519	HOSE-3/4 X 138 JIC 3100 PSI	1	
4		240900001	HOSE-3/4 X 120 12 FSJIC ST/ST 3000	1	
5		130600001	FITTING - TEST - 6FSJ - 16MTP	1	S/N 101-11315
6		57940521	HOSE-3/8 X 80 6FS JIC 3000 PSI	1	
7		59427001	TEE-6M JIC BCH 6FS JIC X 6M JIC	1	
8		53845479	HOSE-3/4 X 38 12FS JIC ST/ST (3000)	1	
9		59410001	12M JIC X 12M ADJ. 90 DEG. ELBOW	1	
10		59928001	6F JIC X 4M JIC ST REDUCER	1	
11		53843331	HOSE-1/4 X 86 4FS JIC 3000 PSI	1	
12		64168001	12M X 6 JIC M STR.	1	
13		57968001	FITTING-STR-4MJ-6MORB	1	S/N 101-11315
14		72056001	FITTING-TEST-6MORB-16MTP	1	S/N 1316 -
15	*	81345001	FITTING-12F JICX4M JIC STR.	1	
16	*	59417001	12 JIC SW RUN TEE	1	

Dump Valve Assy Fig 5-9r03

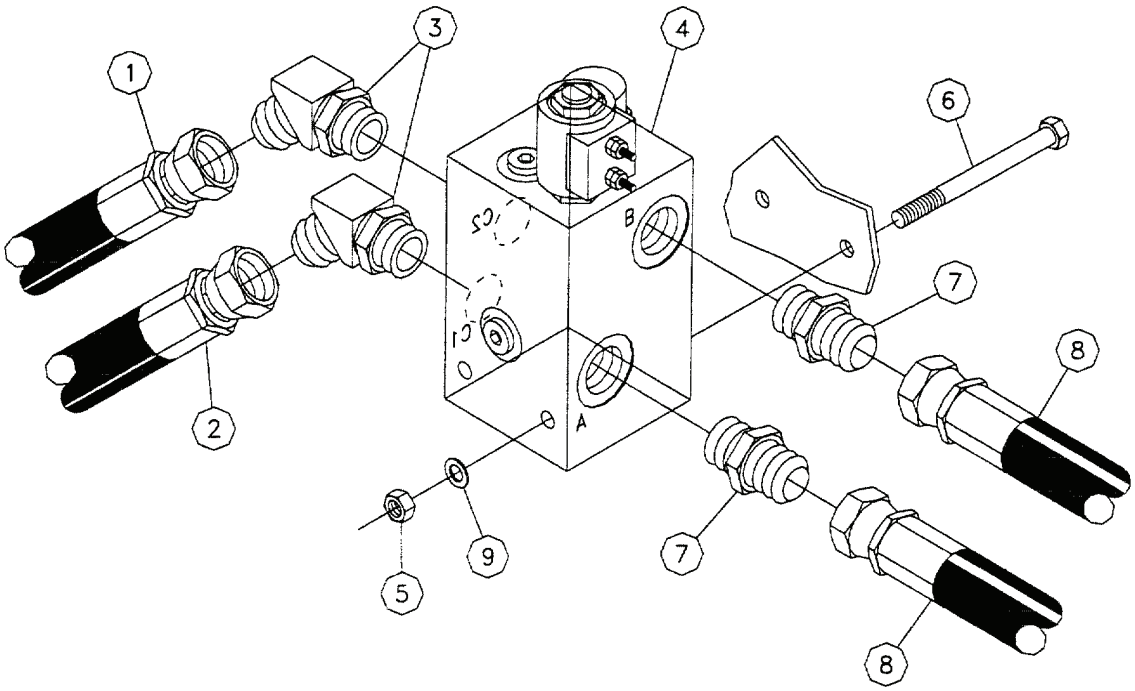


Dump Valve Assy Fig 5-9r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		279107001	VALVE - DIVERTER MANIFOLD	1	Breakdown Fig 5-16
2		53828001	#12M O-RING -#12M JIC ST.	2	
3		53845519	HOSE-3/4 X 138 JIC 3100 PSI	1	
4		240900001	HOSE-3/4 X 120 12 FSJIC ST/ST 3000	1	
5		130600001	FITTING - TEST - 6FSJ - 16MTP	1	S/N 101-11315
6		57940521	HOSE-3/8 X 80 6FS JIC 3000 PSI	1	
7		59427001	TEE-6M JIC BCH 6FS JIC X 6M JIC	1	
8		53845479	HOSE-3/4 X 38 12FS JIC ST/ST (3000)	1	
9		59410001	12M JIC X 12M ADJ. 90 DEG. ELBOW	1	
10		59928001	6F JIC X 4M JIC ST REDUCER	1	
11		53843331	HOSE-1/4 X 86 4FS JIC 3000 PSI	1	
12		64168001	12M X 6 JIC M STR.	1	
13		57968001	FITTING-STR-4MJ-6MORB	1	S/N 101-11315
14	*	72056001	FITTING-TEST-6MORB-16MTP	1	S/N 1316 -

Regen Valve Assy Fig 5-10r01

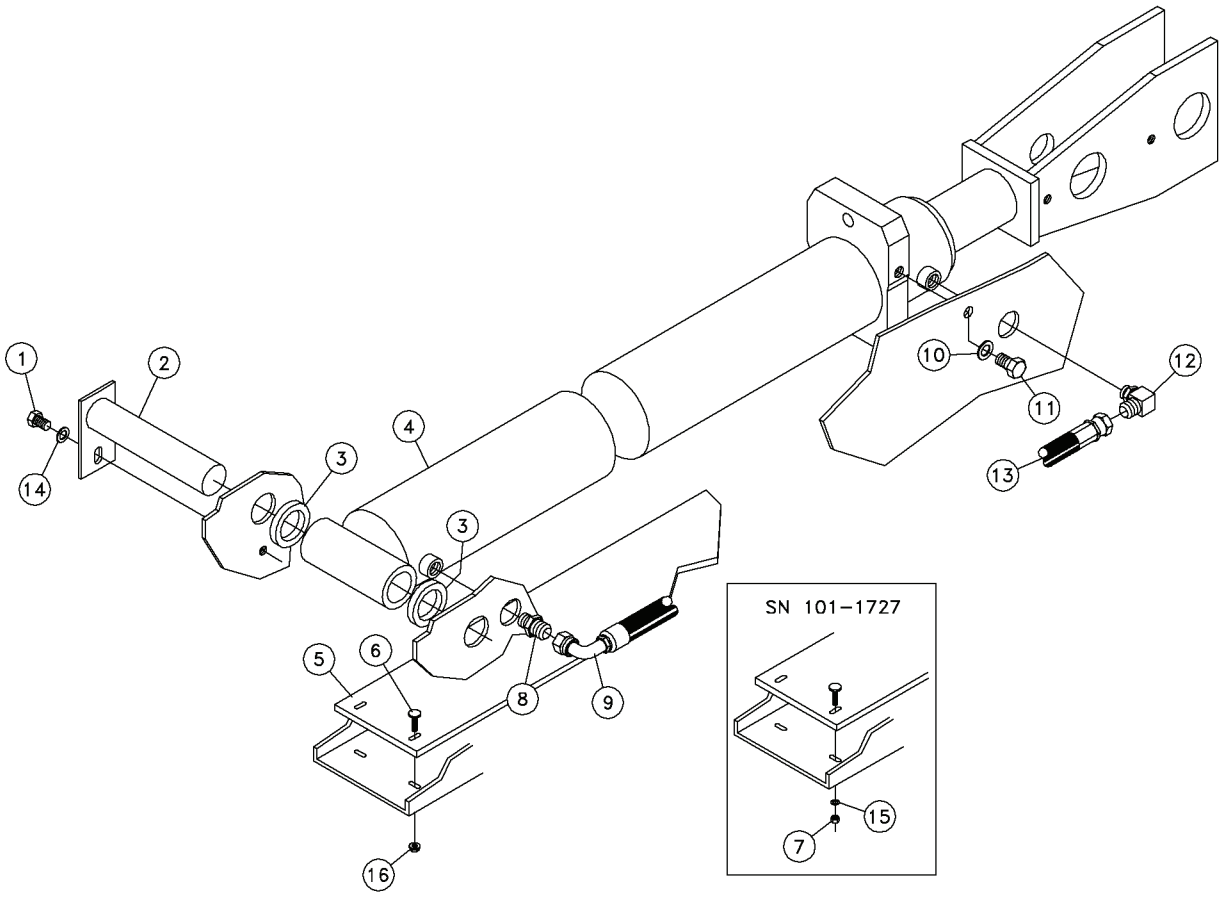
Revised November 1999 due to update in parts list. Changed part marked with *.



Regen Valve Assy Fig 5-10r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Parts List
1		236454001	HOSE-5/8X134 10FSJICST/90 3000	1	
2		236455001	HOSE-5/8X115 10FSJIC 3000 PSI	1	
3		56725001	FITTING-10MX10M JIC 45 DEG.	2	
4	*	279108001	VALVE - REGEN MANIFOLD	1	Breakdown Fig. 5-23
5		235741001	NUT-5/16-18 GR8 ZINC PLTD	2	
6		248013001	BOLT-5/16-18X3 1/2 GD8 ZINC PL	2	
7		53827001	FITT.-#10M O-RING-#10M JIC ST.	2	
8		53842261	HOSE-5/8X20 10FSJIC 3000 PSI	2	
9		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	

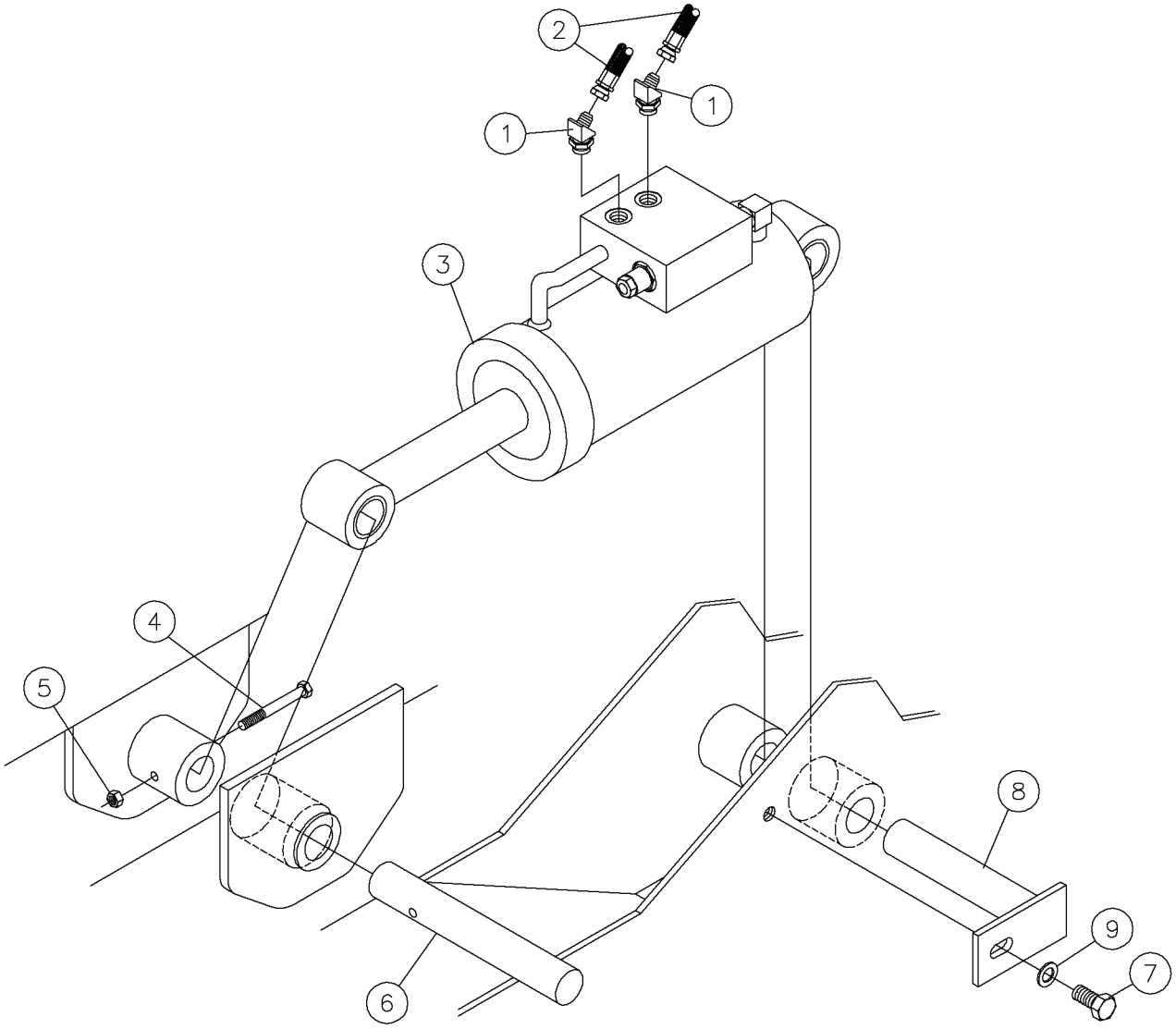
Thrust/Pullback Cylinder Assy Fig 5-11r01



Thrust/Pullback Cylinder Assy Fig 5-11r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		235729001	BOLT-1/2-13X1 GR8 HEX ZINC PLT	1	
2		211144001	CYLINDER PIN	1	
3		213687001	TUBE-SPACER	2	
4		215799001	CYLINDER-4 1/2 X 65 W/2 1/4ROD	1	Breakdown Fig 5-19
5		213612001	PLASTIC-CHAIN GUARD	2	
6		543007	1/4-20X7/8”ELEVATOR BOLT W/1/8	8	
7		235732001	NUT - HEX - .25 - 20 - GR8 - YZ	8	S/N 101-1727
8		67850001	8M X 10MJIC STR	1	
9		236454001	HOSE-5/8X134 10FSJICST/90 3000	1	
10		235715001	WASHER-5/8 SAE HARD ZINC PLTD	2	
11		235730001	BOLT-5/8-11X1 1/4 GR8 ZINC PLT	2	
12		53823001	#8M O-RING-#10M JIC 90 DEG.	1	
13		236455001	HOSE-5/8X115 10FSJIC 3000 PSI	1	
14		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	
15		235716001	WASHER - FLATSTRL - .25 -.28 X .63 - .06 - CZ	8	S/N 101-1727
16	*	405001	NUT-1/4 NC FLG WHIZ LOCK	8	S/N 1728 -

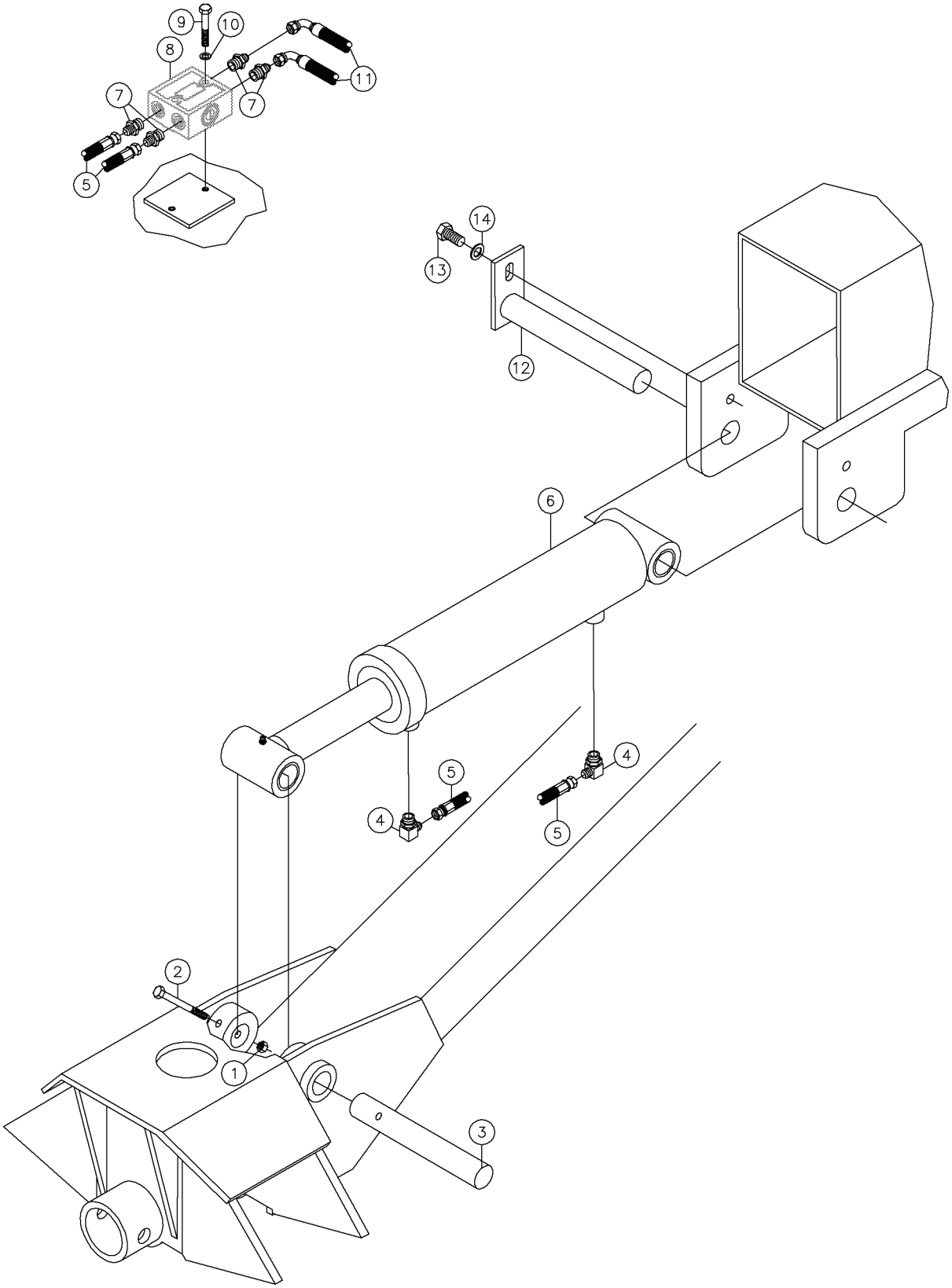
Rack Lift Cylinder Assy Fig 5-12



Rack Lift Cylinder Assy Fig 5-12

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		82931001	FITTING-6MX4M JIC 45 DEG ELBOW	2	
2		53843523	HOSE-1/4X86 4FS JIC ST/4FSJC90	2	
3		236423001	CYLINDER- 4X7 (W077CY26)	1	Breakdown Fig 5-18
4		238212001	BOLT-5/16-18 X 3” GR 8 HEX YZI	1	
5		240333001	NUT-5/16-18 GR8 TL ZINC PLTD	1	
6		213586001	PIN-FOOT CYL. TOP	1	
7		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	1	
8		215602001	PIN-CYLINDER	1	
9		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	

Outrigger Cylinder Assy Fig 5-13r02



Outrigger Cylinder Assy Fig 5-13r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Parts List
1		240333001	NUT-5/16-18 GR8 TL ZINC PLTD	1	
2		238212001	BOLT-5/16-18 X 3” GR8 HEX YZI	1	
3		213586001	PIN-FOOT CYL. TOP	1	
4		600118001	FITTING-6MORINGX4MJIC90PARKER	2	
5		53843189	HOSE-1/4X24 4FS JIC 3000 PSI	2	
6		224977001	CYLINDER- 3 1/2”X12 XCX	1	Breakdown Fig 5-19
7		57968001	6M O-RING 4M JIC STRAIGHT	4	
8		86668001	VALVE-LOA-6-D	1	
9	*	248030001	BOLT-5/16-18X1 3/4 GR8 ZINC PL	2	Replaces 238211001
10		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	
11		240901001	HOSE-1/4X147 4FSJIC ST/90 3000	2	
12		225152001	PIN-CYLINDER	1	
13		235729001	BOLT-1/2-13X1 GR8 HEX ZINC PLT	1	
14		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	

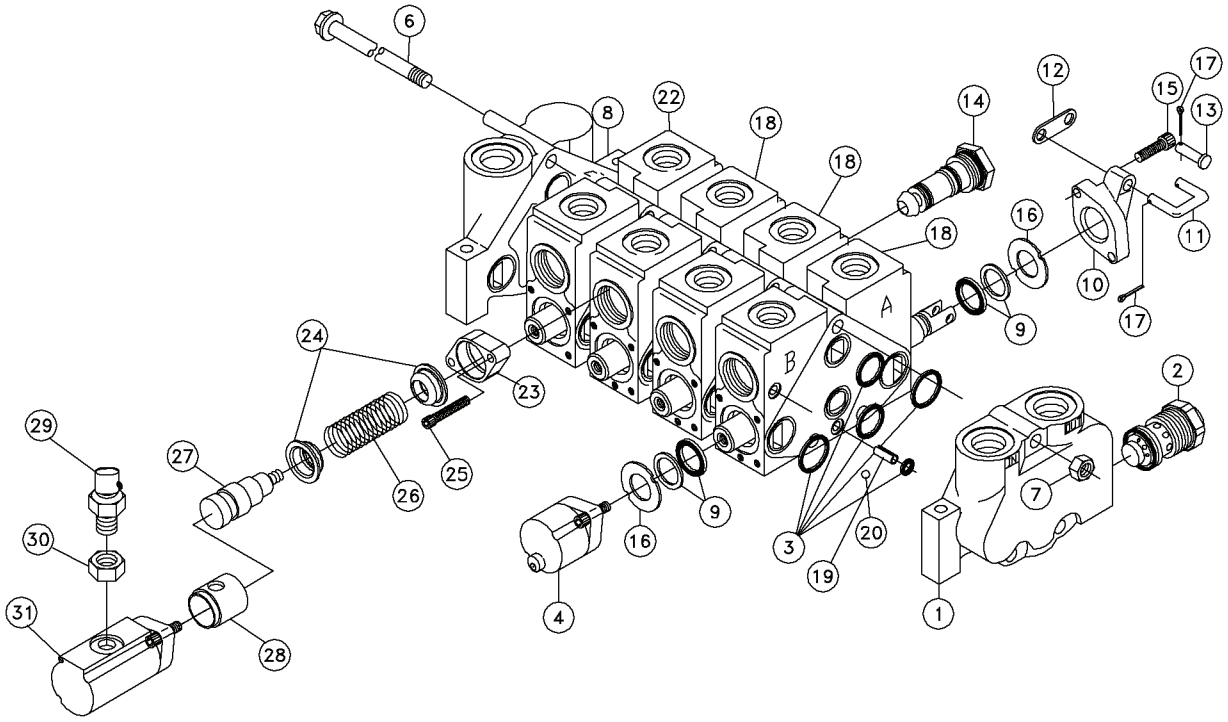
Bulkhead Assy Fig 5-14r01

Revised February 1999 due to moving of figure.

Bulkhead Assy Fig 5-14r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
			Revised February 1999 due to moving of		
			figure.		

Control Valve Components - 4 Spool (S/N 11549, 1611 -) Fig 5-15r03

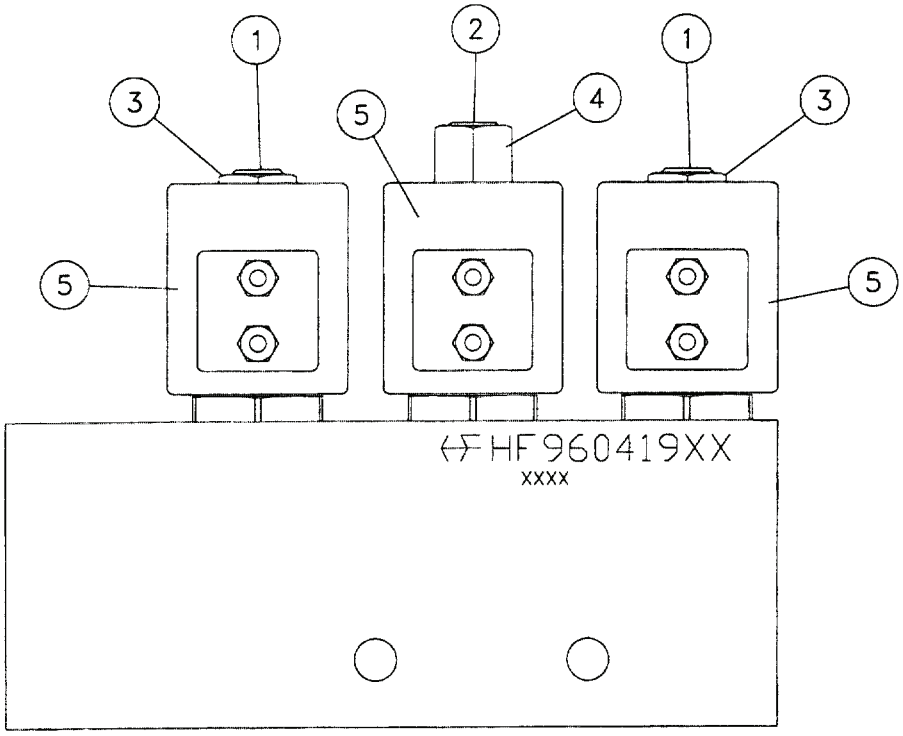


Control Valve Components - 4 Spool (S/N 11549, 1611 -) Fig 5-15r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update To Heading
1		228113003	LEFT COVER PLATE COMPLETE	1	
2		228113005	WH MAIN RELIEF (3500 PSI)	1	Breakdown Fig 3-11
3		87390001	REPAIR KIT-LOAD SENSING SECT.	5	
4		6149005	POSITIONER-STD. GRESEN K-6125	4	Breakdown Fig 3-10
5		3152011	PLUG SAE 12 GRESEN 1726-001	1	Include O-Ring
5		3152013	SEAL-O-RING	1	
6		14173003	STUD KIT-4 SECT.GRESEN K-6107	1	Inc Ref No 7
7		446001	NUT-3/8 NF HEX	3	
8		102976001	COVER ASSY-RIGHT LOAD SEN.	1	Inc One Of Ref No's 3, 5 & 21
9		3147077	REPAIR KIT	4	
10		3147029	BRACKET	4	
11		4333003	LINK	4	
12		4333005	PLATE-LINK	4	
13		2110003	PIN-CLEVIS 1/4 X 7/8 - 47/64 UL	4	
14		3147035	PLUG-LOAD CHECK STEEL K-6030	8	Breakdown Fig 3-9
15		79704001	SCREW-1/4-20 X 7/8 SOC HD SEFLK	8	
16		3147081	RETAIN-PLT WASH	8	
17		510035	PIN-3/32 X 1/2 COTTER	12	
18		236458003	BODY ASSY-CNTR SEC W/FREE FLOW	3	Inc One Of Ref No's 3, 4, 9-11, 13, 19 & 20, Inc Two Of Ref No's 14-16, Inc Three Of Ref No 17
19		87397001	PIN-SPRING	1	
20		87398001	BALL	1	
21		3213017	PLUG-RELIEF 3/8" GRESEN 73-001	1	
22		236458006	BODY ASSY-CENTER SECTION	1	Inc One Of Ref No's 3, 4, 9-11, 13, 19 & 20, Inc Two Of Ref No's 14-16, Inc Three Of Ref No 17
23		236458007	SPACER	1	
24		236458008	SPRING COLLAR	2	
25		236458009	SCREW	2	
26		236458010	SPRING	1	
27		236458011	SWITCH SPUD	1	
28		236458012	SLEEVE	1	
29		236458013	SWITCH	1	
30		236458014	HEX JAM NUT	1	
31		236458015	BONNET		
		236458001	VALVE-4 SPOOL CONTROL		Includes All Items In Figure

Dump Valve Components Fig 5-16r01

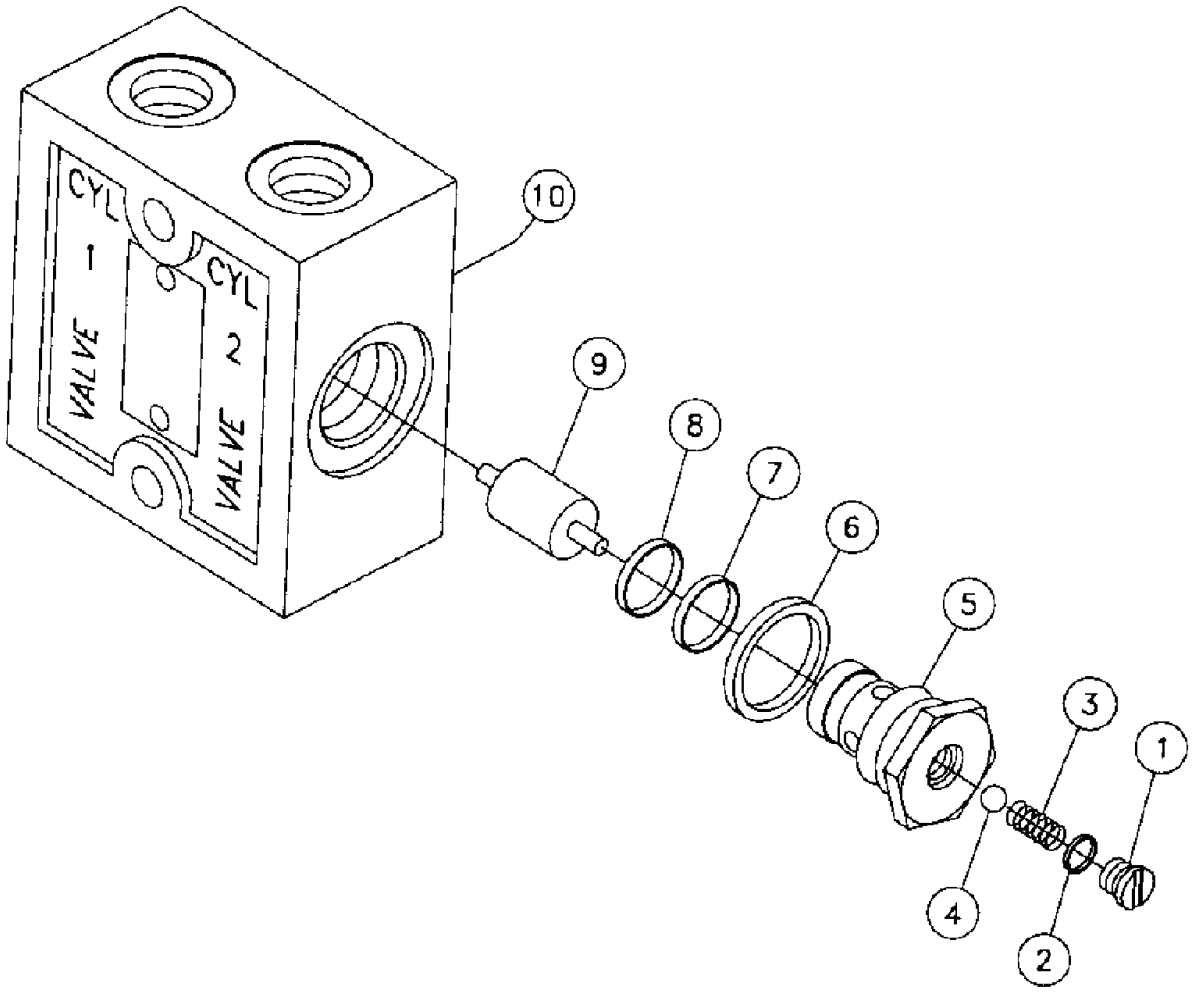
Revised November 1999 due to update in parts list. Changed parts marked with *.



Dump Valve Components Fig 5-16r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Parts List.
1		904525007	POPPET-N/C	2	
	*	279111001	SEAL KIT	2	
2		904525005	POPPET-N/O	1	
	*	279111001	SEAL KIT	1	
3		224886007	NUT	2	
4		904525013	NUT-COIL (LONG)	1	
5		240983001	COIL-10 DV 12 VDC	3	
	*	279107001	VALVE - DIVERTER MANIFOLD		Includes All Items In Figure

Lock Valve Components Fig 5-17

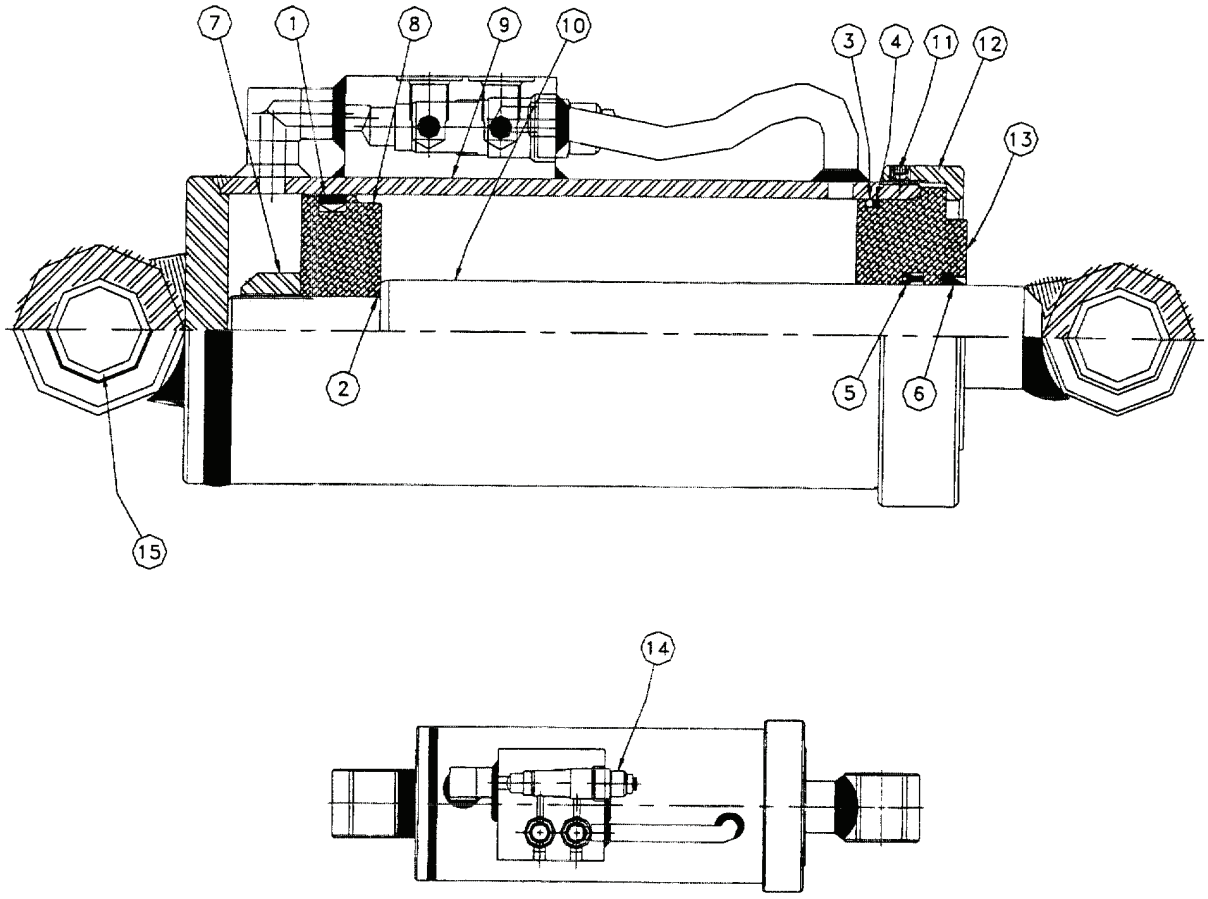


Lock Valve Components Fig 5-17

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		3216007	PLUG-SEAT	2	
2		NSS	REPAIR KIT (INC. TWO EACH OF REF. 2 & 6-8)	2	
3		3216009	SPRING-CHECK	2	
4		3216011	BALL	2	
5		3216013	SEAT	2	
6		NSS	O-RING	2	
7		NSS	O-RING	2	
8		NSS	WASHER-BACKUP	2	
9		3216015	PISTON-D	1	
10		NSS	HOUSING	1	
		3216003	REPAIR KIT GRESEN K-26004		Inc Two Of Ref No's 2 & 6-8
		3216005	REBUILDING KIT-D GRSN K-26002		Inc Two Of Ref No's 1-8, Inc One Of Ref No 9
		86668001	VALVE-LOCK-6-D		Includes All Items In Figure
		NSS	Not Sold Separately		

Hyd Cylinder Components - 4 x 7 Fig 5-18r01

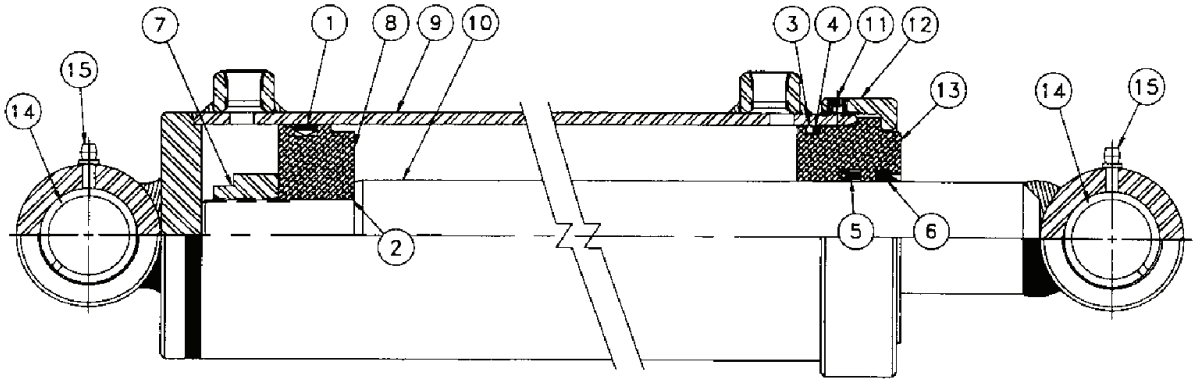
Revised November 1999 due to update in parts list. Added part marked with *.



Hyd Cylinder Components - 4 x 7 Fig 5-18r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Parts List.
1		230011003	UNI-RING	1	
2		223842007	O-RING	1	
3		223842009	SEAL KIT-HYD. CYLINDER	1	
4		200795001	RING-BACKUP #240	1	
5		236423003	LOADED U-CUP	1	
6		200808001	WIPER 52-1500	1	
7		218496007	LOCK NUT	1	
8		236423005	PISTON	1	
9		236423007	BARREL ASSEMBLY	1	
10		236423009	ROD ASSEMBLY	1	
11		206557009	NT SH SET SCREW	1	
12		215325011	THREAD CAP	1	
13		204355001	GLAND	1	
14		229414007	C.B. VALVE	1	
15	*	236423013	BSHNG-1.50X1.125X1.00 SELF-LUB	2	
		236423001	CYLINDER- 4X7 (W077CY26)		Complete
		236423011	SEAL KIT		Inc Ref No's 1-6

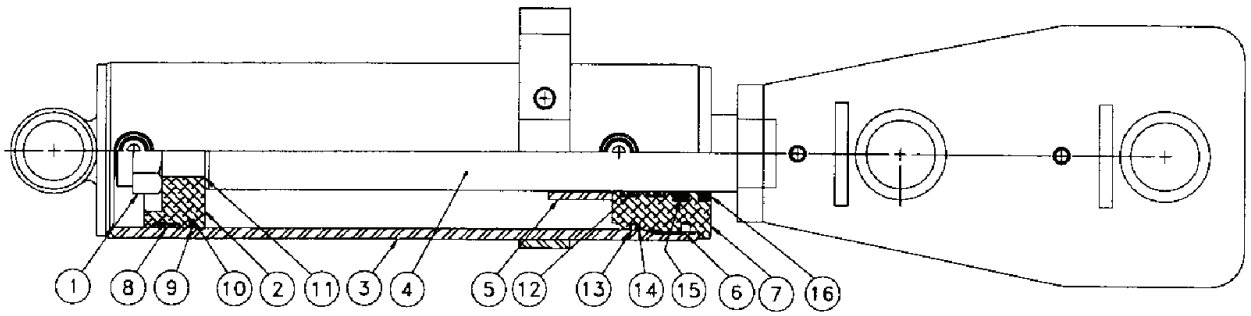
Hyd Cylinder Components - 3 1/2 x 12 Fig 5-19



Hyd Cylinder Components - 3 1/2 x 12 Fig 5-19

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		200789001	UNI-RING	1	
2		200820001	O-RING	1	
3		200822001	O-RING	1	
4		200787001	WASHER-BACKUP	1	
5		224977003	LOADED-CUP	1	
6		115404017	ROD WIPER	1	
7		224977005	LOCKNUT	1	
8		200788001	PISTON	1	
9		224977007	BARREL ASSEMBLY	1	
10		224977009	ROD ASSEMBLY	1	
11		212820009	SET SCREW-SOCKET HD	1	
12		200783001	THREADED CAP	1	
13		200786001	GLAND	1	
14		1835027	BSHG.-STL.-1 1/2X1 1/4X1 1/2	2	
15		215325015	GREASE ZERK (DRIVE-IN)	2	
		200782001	SEAL KIT-3 1/2X17 CYL GOLDSTAR		Inc Ref No's 1-6
		224977001	CYLINDER- 3 1/2"X12 XCX		Complete

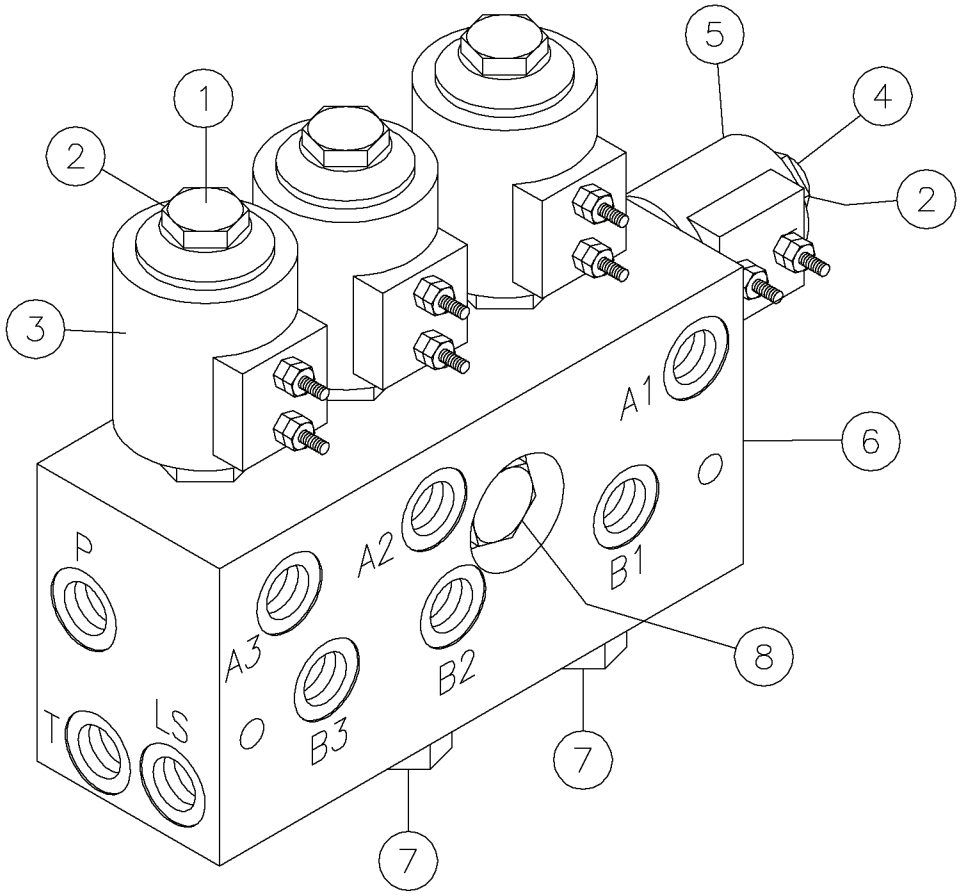
Hyd Cylinder Components - 4 1/2 x 65 Fig 5-20



Hyd Cylinder Components - 4 1/2 x 65 Fig 5-20

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		85777031	NUT-1 1/2" 12 LOCK	1	
2		212568007	PISTON	1	
3		215799003	TUBE WELDMENT	1	
4		215799005	ROD WELDMENT	1	
5		215799007	ROD SPACER	1	
6		99541017	LOCKING INSERT	1	
7		215799009	HEAD GLAND	1	
8		212568009	WEAR BAND	1	
9		212568011	SEAL-SQ SECTION TEFLON	1	
10		212568013	SQUARE RING	1	
11		85923023	O-RING	1	
12		215799011	WEAR BAND	2	
13		212568017	O-RING	1	
14		212568019	BACKUP RING	1	
15		215799013	POLYPAK	1	
16		215799015	ROD WIPER	1	
		215799017	SEAL KIT		Inc Ref No's 8-16
		215799001	CYLINDER-4 1/2 X 65 W/2 1/4ROD		Complete

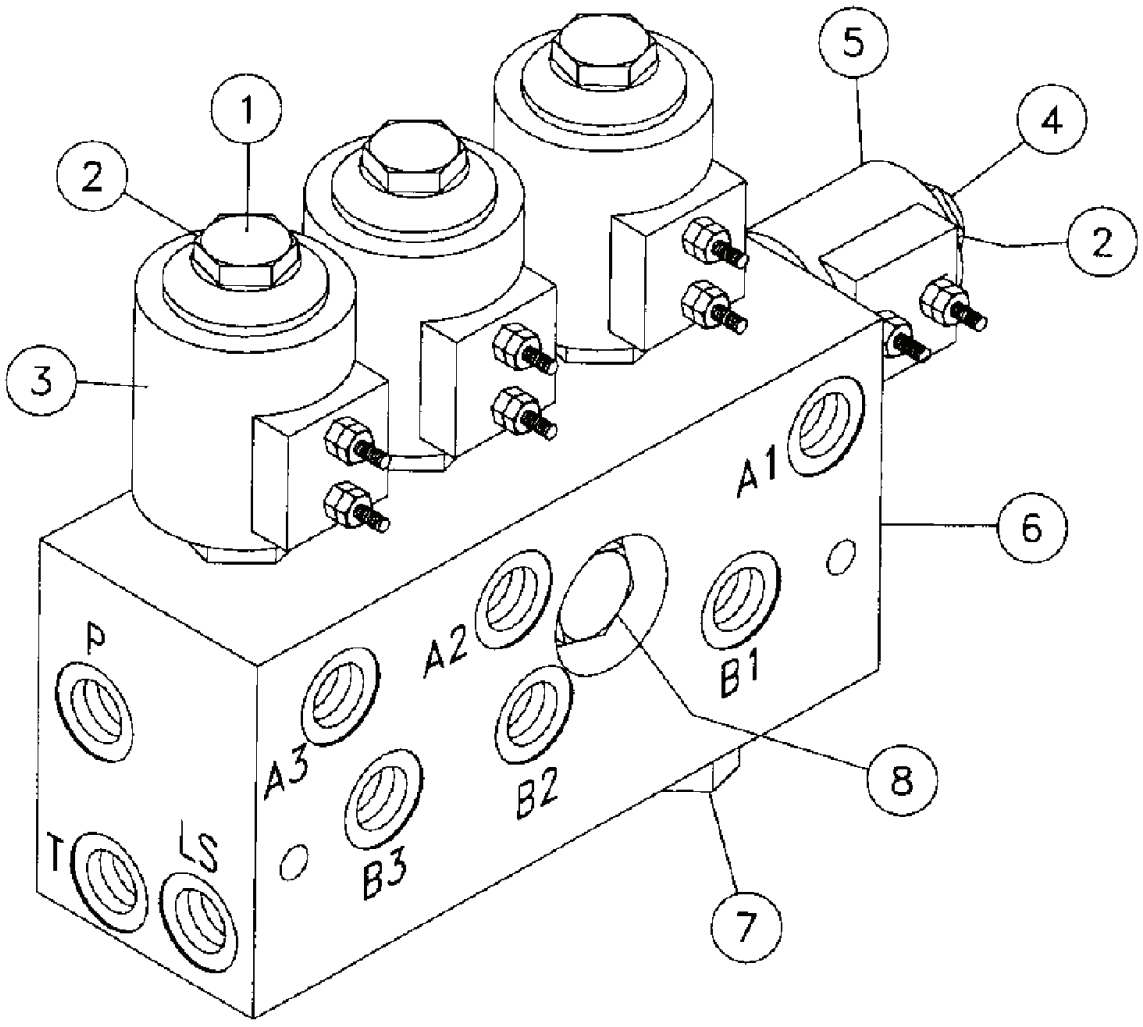
Soleniod Cylinder Components - Vise Clamp Fig 5-21r01



Soleniod Cylinder Components - Vise Clamp Fig 5-21r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		228128003	CARTRIDGE-SOLENOID	3	Include Seal Kit & Nut
		206271007	REPAIR KIT	3	
2		224886007	NUT	4	
3		240983001	COIL-10 DV 12 VDC	3	
4		228128005	CARTRIDGE-SOLENOID	1	Include Seal Kit & Nut
		228128009	SEAL KIT	1	
5		240941003	COIL	1	
6		228128011	BODY-VALVE	1	
7	*	228128013	CARTRIDGE-SOLENOID	2	Include Repair Kit & Nut
	*	228128015	SEAL KIT	2	
8		228128017	CHECK VALVE	1	
		228128009	SEAL KIT	1	
		240941001	VALVE-VISE		Complete, Includes All Items In Figure

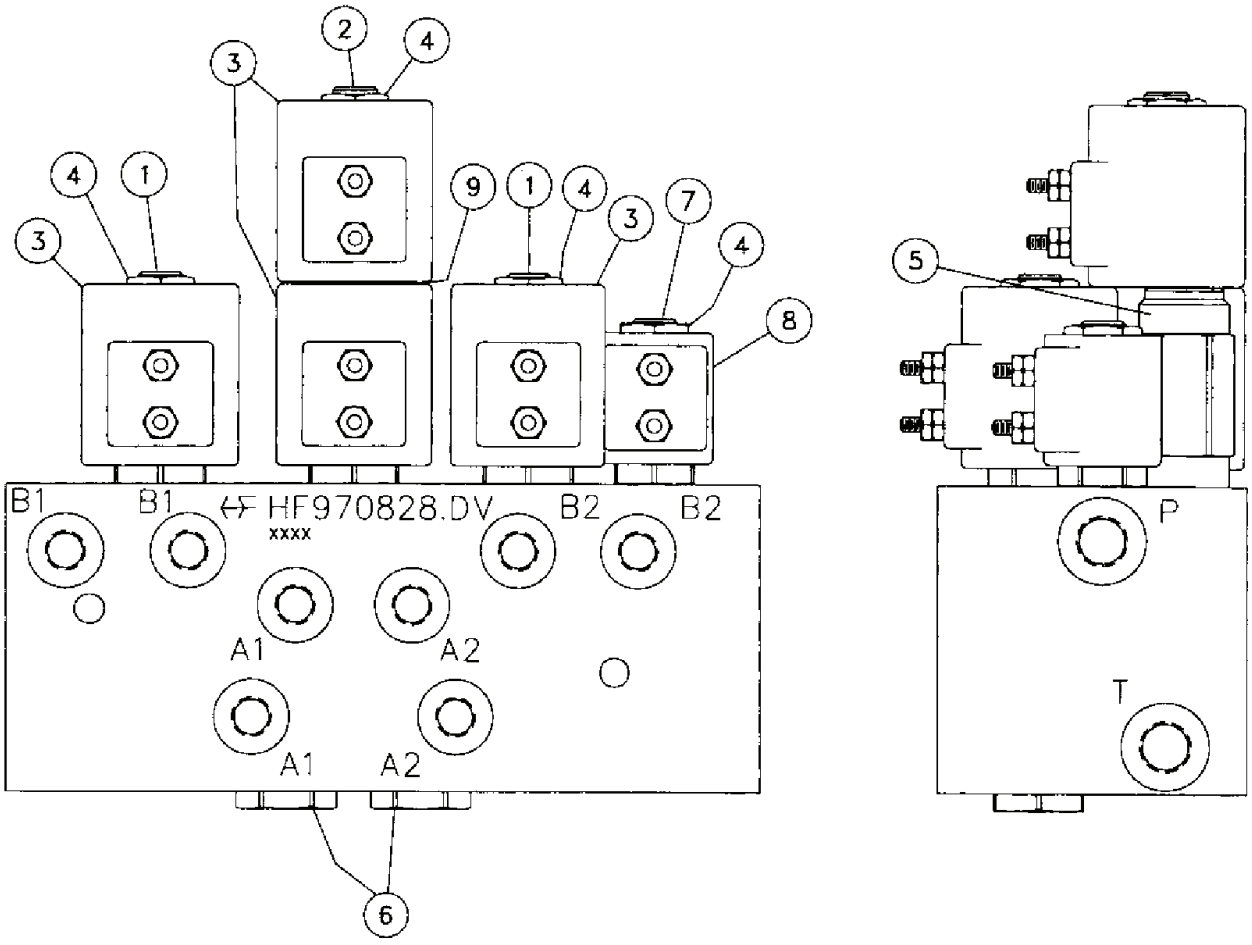
Soleniod Cylinder Components - Vise Clamp Fig 5-21



Soleniod Cylinder Components - Vise Clamp Fig 5-21

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228128003	CARTRIDGE-SOLENOID	3	Include Seal Kit & Nut
		206271007	REPAIR KIT	3	
2		224886007	NUT	4	
3		240983001	COIL-10 DV 12 VDC	3	
4		228128005	CARTRIDGE-SOLENOID	1	Include Seal Kit & Nut
		228128009	SEAL KIT	1	
5		240941003	COIL	1	
6		228128011	BODY-VALVE	1	
7		228128013	CARTRIDGE-SOLENOID	1	Include Repair Kit & Nut
		228128015	SEAL KIT	1	
8		228128017	CHECK VALVE	1	
		228128009	SEAL KIT	1	
		240941001	VALVE-VISE		Complete, Includes All Items In Figure

Soleniod Cylinder Components - Rod Loader Fig 5-22

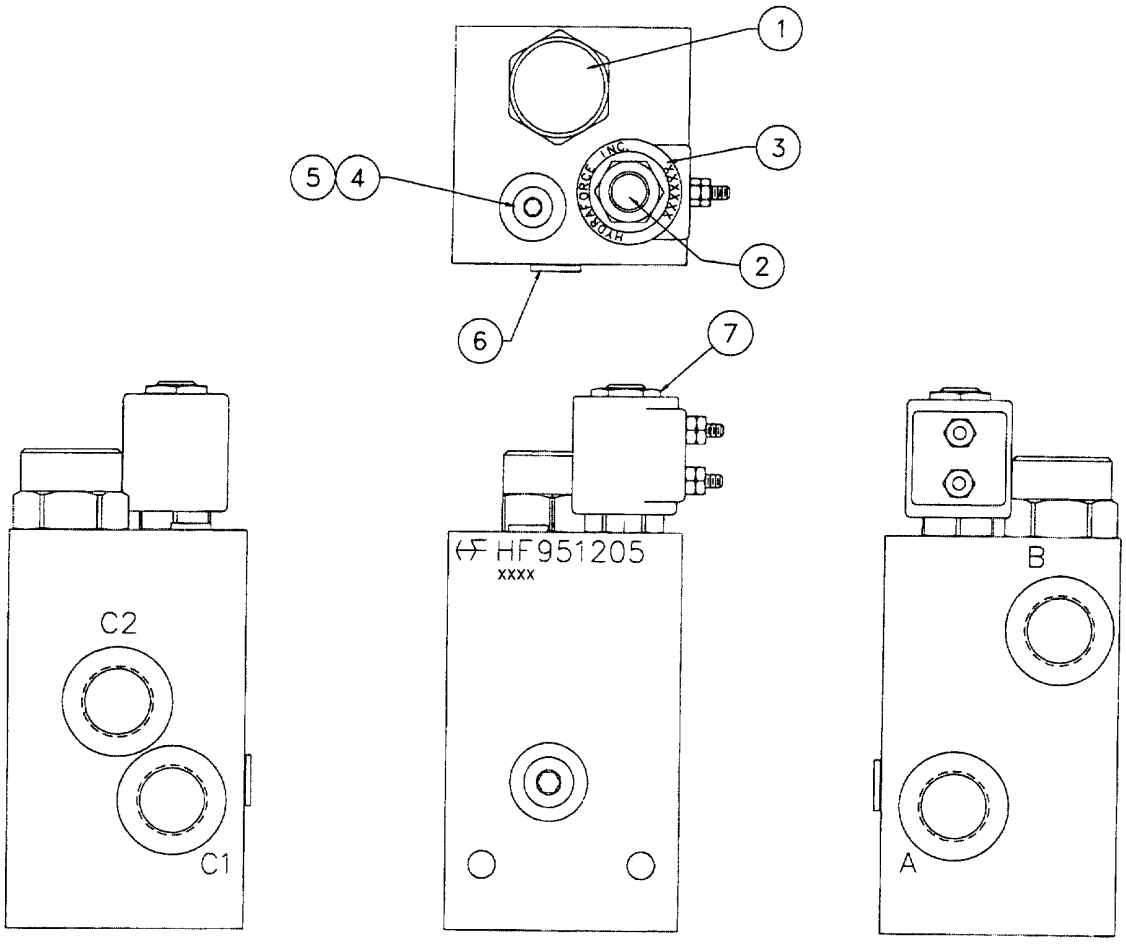


Soleniod Cylinder Components - Rod Loader Fig 5-22

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		212822005	CARTRIDGE	2	Include Repair Kit & Nut
		206271007	REPAIR KIT	1	
2		206271007	REPAIR KIT	1	
		228129003	CARTRIDGE-SOLENOID	1	Include Repair Kit & Nut
3		206271005	COIL-12V DUAL POST	4	
4		224886007	NUT	4	
5		240942003	CARTRIDGE-PRESSURE RELIEF	1	
		236316005	SEAL KIT	1	
6		228179003	FLOW DIVIDER/COMBINER	2	
		228179005	SEAL KIT	2	
7		240942005	CARTRIDGE	1	Include Repair Kit & Nut
		228128009	SEAL KIT	1	
8		228128007	COIL	1	
9		228129007	SPACER	1	
		240942001	VALVE-ROD LOADER		Includes All Items In Figure

Valve Components - Selectable Regen Fig 5-23r01

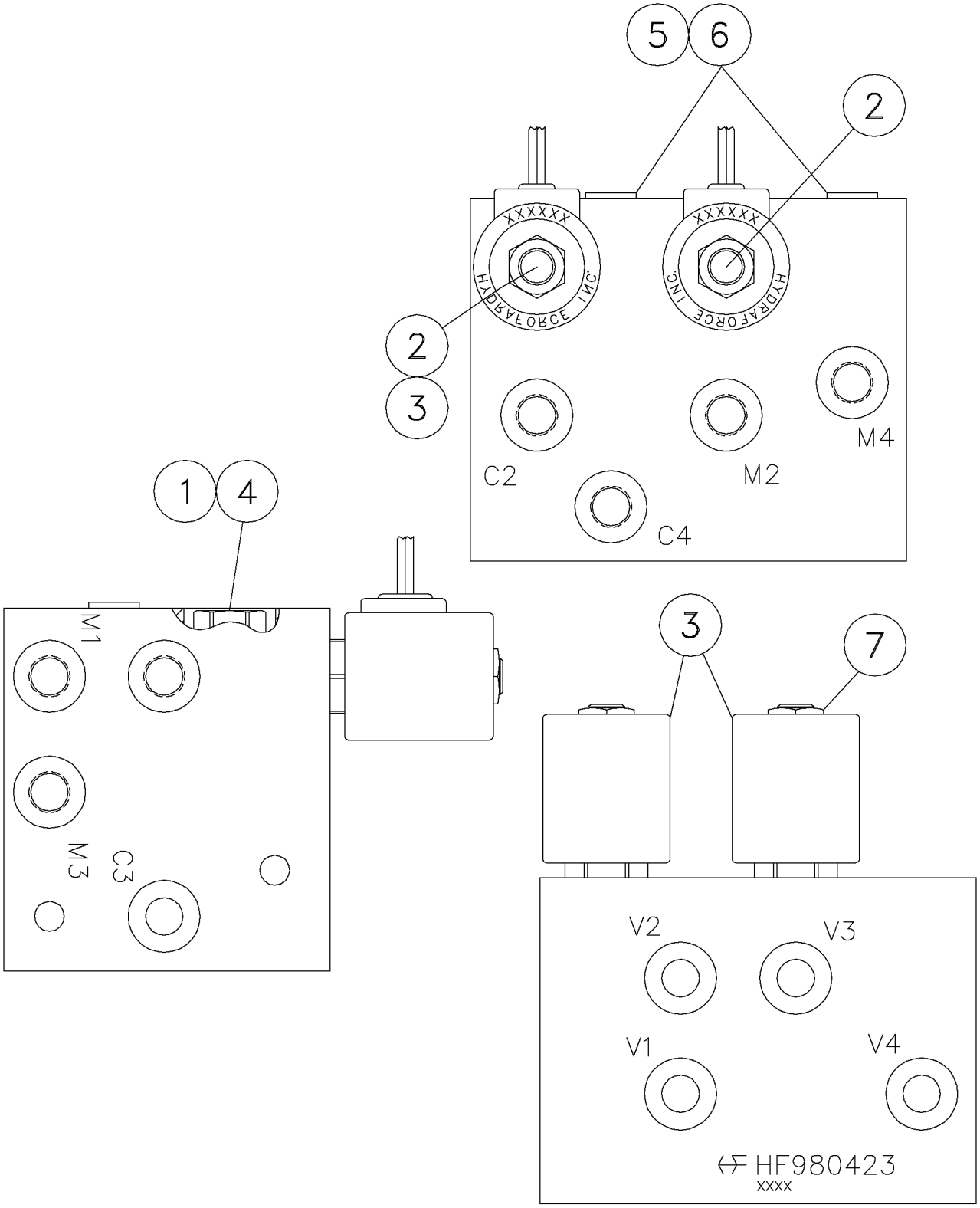
Revised November 1999 due to update in parts list. Changed parts marked with *.



Valve Components - Selectable Regen Fig 5-23r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Parts List.
1		228124003	CARTRIDGE-PILOTED DIRECTIONAL	1	
	*	279104001	SEAL KIT	1	
2		228124017	CARTRIDGE-SOLENOID	1	Include Seal Kit & Nut
	*	279112001	SEAL KIT	1	
3		240941003	COIL	1	
4		228124007	ORIFICE PLUG	1	
5		228124009	PORT PLUG	1	
		228124011	SEAL KIT	1	
6		228124013	PORT PLUG	1	
		228124015	SEAL KIT	1	
7		224886007	NUT	1	
	*	279108001	VALVE - REGEN MANIFOLD		Include all items in figure

Stakedown Valve Components Fig 5-24r01

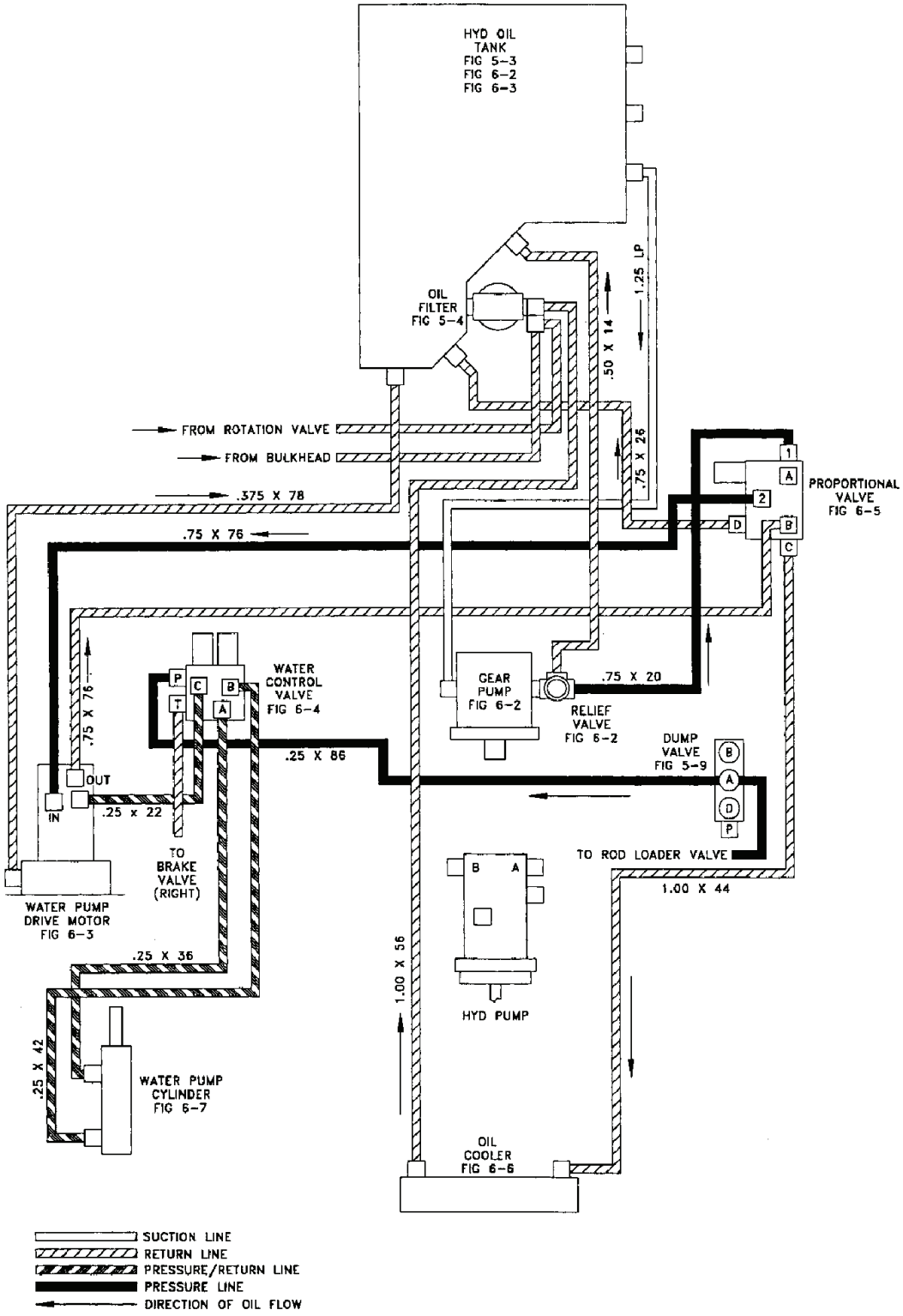


Stakedown Valve Components Fig 5-24r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration
1		205737001	CHECK-VALVE DOUBLE PILOT	1	
1		228128009	SEAL KIT	1	
2		251072003	SOLENOID VALVE	2	
2		204097005	SEAL KIT	1	
3		240983001	COIL-10-DV-12 VDC	2	
4		246415003	PILOT PISTON	1	
5		240326003	PLUG-ORIFICE	1	
6		500659021	SAE PLUG	2	
7		224886001	NUT	2	
		228246001	VALVE- STAKEDOWN		Includes All Items In Figure

Hyd Components Location Diagram - Water System Fig 6-1r01

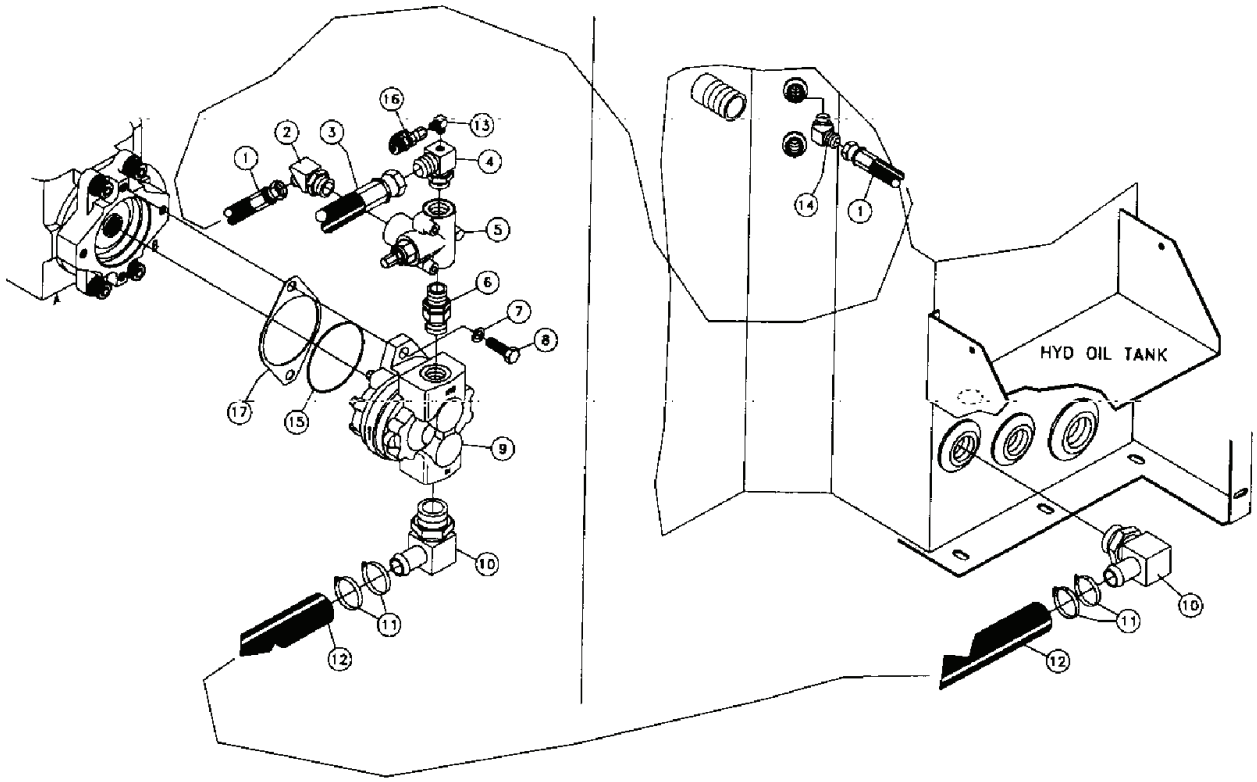
Revised February 1999 due
to update in hose routing.



Hyd Components Location Diagram - Water System Fig 6-1r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Hose Routing

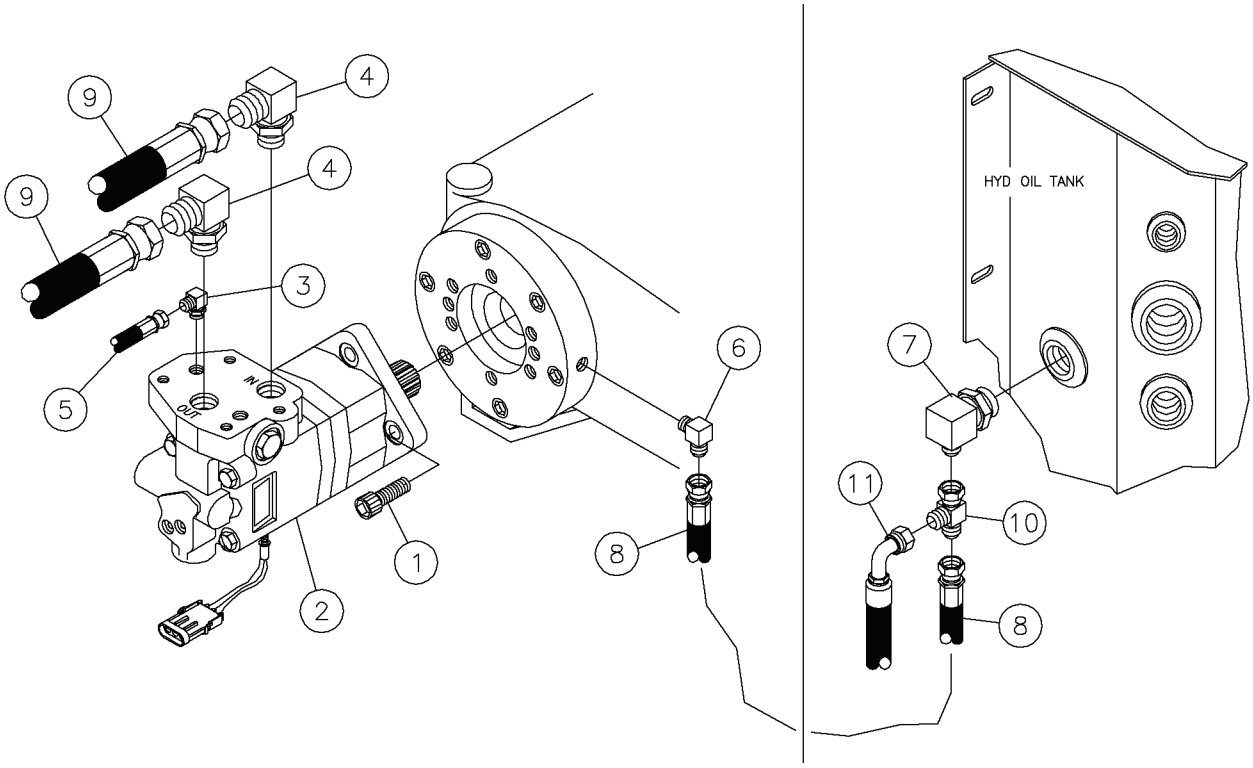
Gear Pump Assy Fig 6-2



Gear Pump Assy Fig 6-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		53844369	HOSE-1/2X14 8FS JIC 3000 PSI	1	
2		111487001	FITTING-12MX8M JIC 45 EL	1	
3		53845303	HOSE-3/4X20 12FS JIC 3000 PSI	1	
4		69918001	FITTING-PRESSURE CHECK	1	
5		228251001	VALVE-2500 PSI RELIEF	1	Breakdown Fig 6-10
6		712001	12 M HEX NIPPLE	1	
7		485025	WASHER-1/2 FLAT-HARDENED-ZINC	2	
8		235721001	BOLT-1/2-13X1 1/2 GR8 ZINC PLT	2	
9		225188001	PUMP-1.78 CID SPLINED SHAFT	1	
10		99999001	FITTING-20MORINGX1 1/4BEAD 90	2	
11		238094001	CLAMP-3/4X1 3/4 BAND W/SCREW	4	
12		238599001	HOSE-PUMP SUCTION W/SPRING INS	1	
13		56647001	FITTING-1/4MX4M JIC 90 DEG.	1	
14		53834001	#8M O-RING-#8M JIC 45 DEG	1	
15		76455001	O-RING #11223 FAUVER	1	
16		83015001	FITTING-4F JIC DIAGNOSTIC	1	
17		103032001	GASKET	1	

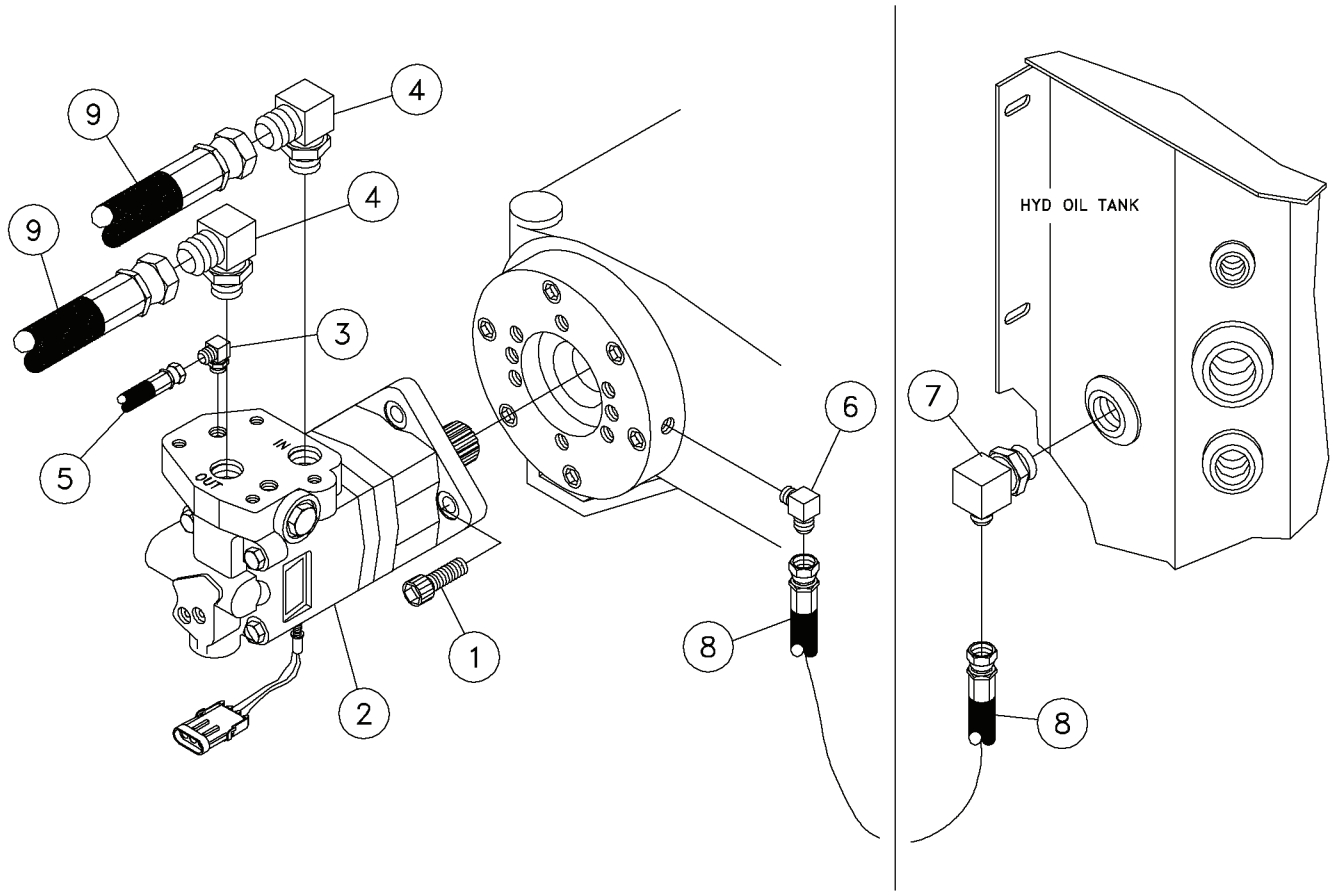
Hyd Motor Assy - Water System Fig 6-3r02



Hyd Motor Assy - Water System Fig 6-3r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		514014	1/2 - 13 X 1 1/2" SOCKET HEAD BOLT	4	
2		228098003	MOTOR-HYD.	1	Breakdown Fig 6-9r01, S/N 101-1548, 1550-1610
		275996001	MOTOR - HYD. (EATON) 2 SP.	1	Breakdown Fig 6-9r02, S/N 1549, 1611 -
3		59423001	FIT-4M JIC X 4M ADJ. 90 DEG. ELBOW	1	
4		538710001	#10M O-RING X 12M JIC 90	2	
5		53843743	HOSE - 1/4 X 22 4FSJICST 6000 PSI	1	
6		68707001	FITTING-1/4M X 6M JIC 90 DEG.	1	
7		102115001	FITTING-12M X 6M JIC 90 DEG.	1	
8		57940089	HOSE-3/8 X 78 6FS JIC (100R2)	1	
9		53845135	HOSE-3/4 X 76 12FS JIC (3000PSI)	2	
10	*	59427001	TEE-6MJ-6FSJ-6MJ	1	
11	*	57940571	HOSE-HYD-.38-16-6FSJIC-ST/90-3000PSI	1	

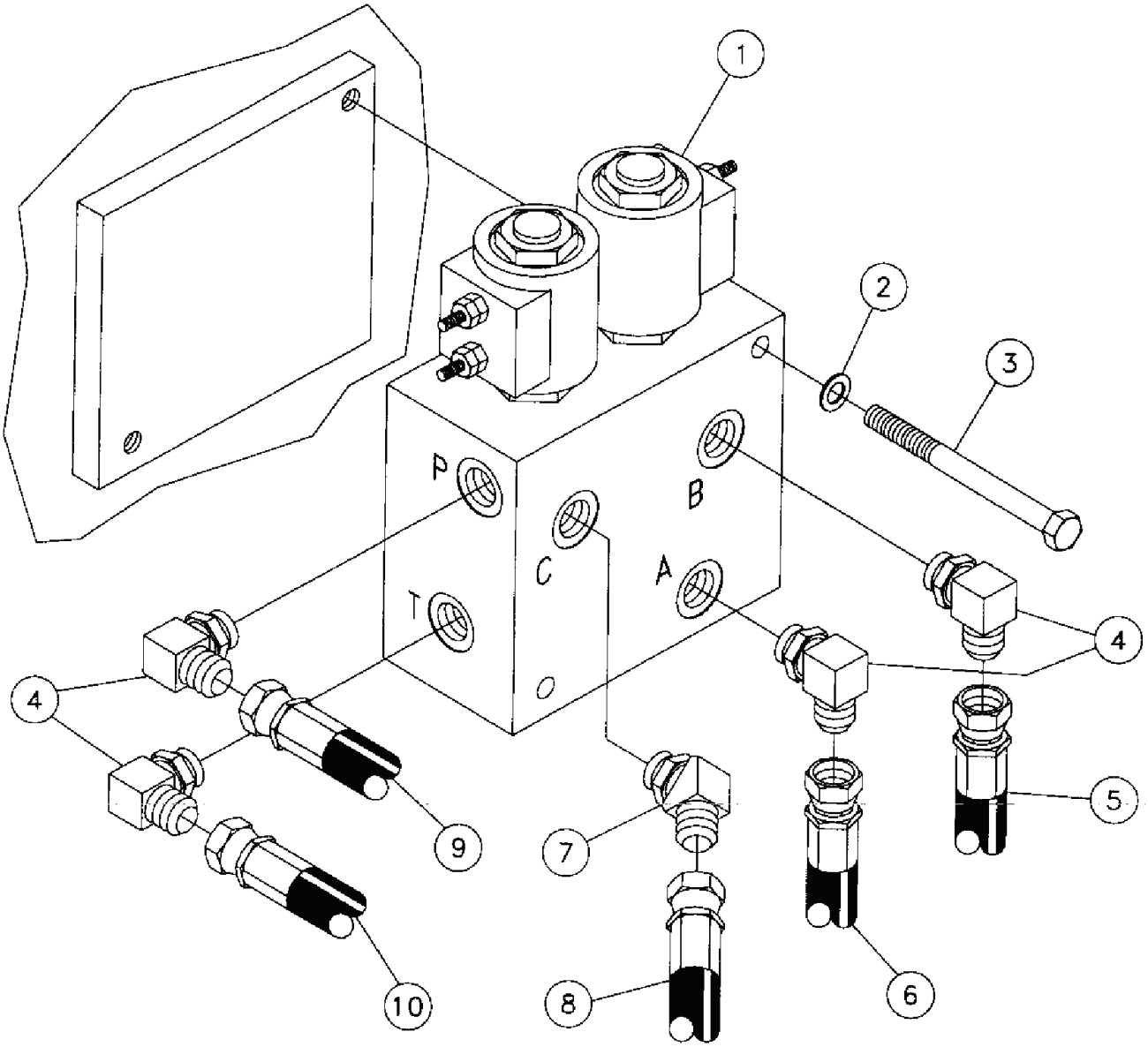
Hyd Motor Assy - Water System Fig 6-3r01



Hyd Motor Assy - Water System Fig 6-3r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		514014	1/2 - 13 X 1 1/2" SOCKET HEAD BOLT	4	
2		228098003	MOTOR-HYD.	1	Breakdown Fig 6-9r01, S/N 101-1548, 1550-1610
	*	275996001	MOTOR - HYD. (EATON) 2 SP.	1	Breakdown Fig 6-9r02, S/N 1549, 1611 -
3		59423001	FIT-4M JIC X 4M ADJ. 90 DEG. ELBOW	1	
4		538710001	#10M O-RING X 12M JIC 90	2	
5		53843743	HOSE - 1/4 X 22 4FSJICST 6000 PSI	1	
6		68707001	FITTING-1/4M X 6M JIC 90 DEG.	1	
7		102115001	FITTING-12M X 6M JIC 90 DEG.	1	
8		57940089	HOSE-3/8 X 78 6FS JIC (100R2)	1	
9		53845135	HOSE-3/4 X 76 12FS JIC (3000PSI)	2	

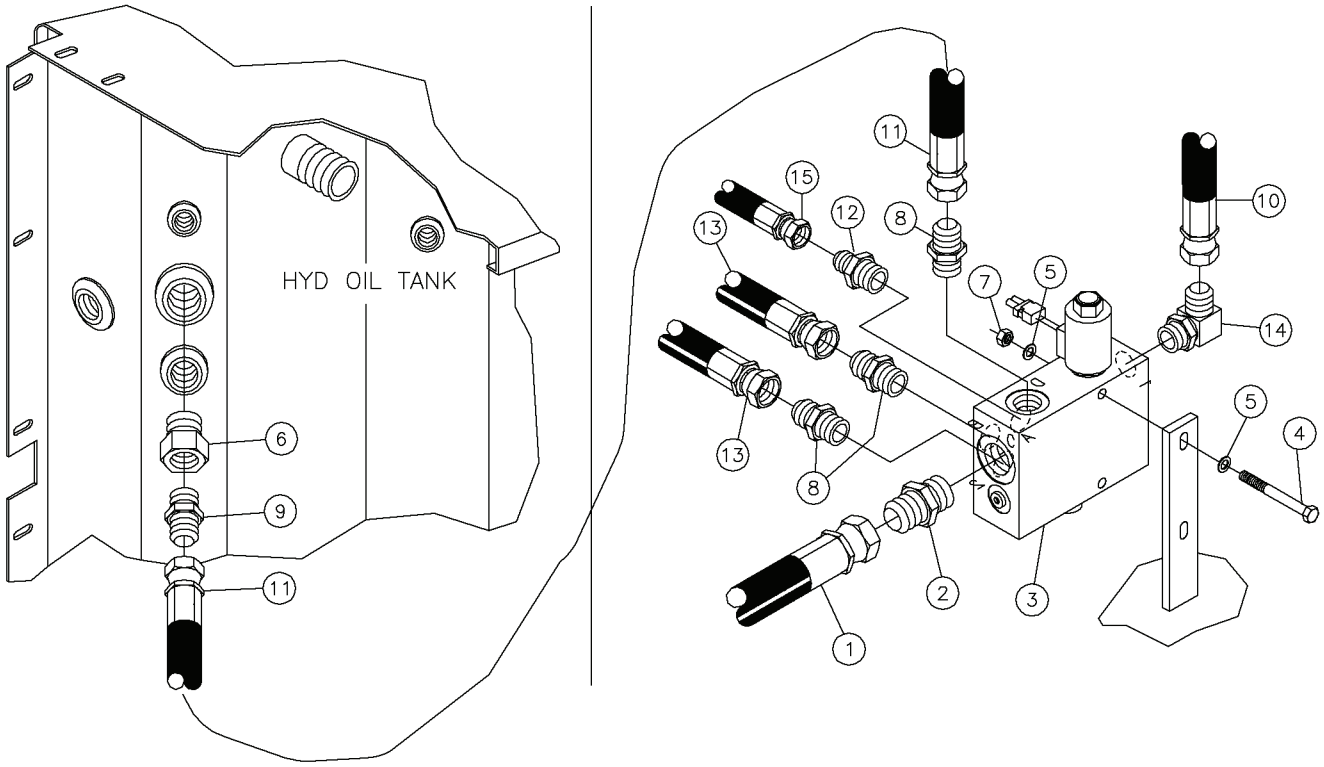
Water Control Valve Assy Fig 6-4



Water Control Valve Assy Fig 6-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		240945001	VALVE-2 SPEED WATER PUMP	1	Breakdown Fig 6-12
2		235716001	WASHER-1/4 SAE HARD ZINC PLTD	2	
3		244102001	BOLT-14-200X2 1/2 GR8 ZNC	2	
4		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	4	
5		53843701	HOSE-1/4X42 4FSST/4FS90 2750	1	
6		53843003	HOSE-1/4X36 4FS JIC (100R1)	1	
7		58295001	FITTING-4M OR X 4M JIC 45 DEG.	1	
8		53843057	HOSE-1/4X22 4FS JIC (100R1)	1	
9		53843331	HOSE-1/4X86 4FS JIC 3000 PSI	1	
10		236449001	HOSE-1/4X52 4FSJIC ST/90 3000	1	

Proportional Valve Assy Fig 6-5r02

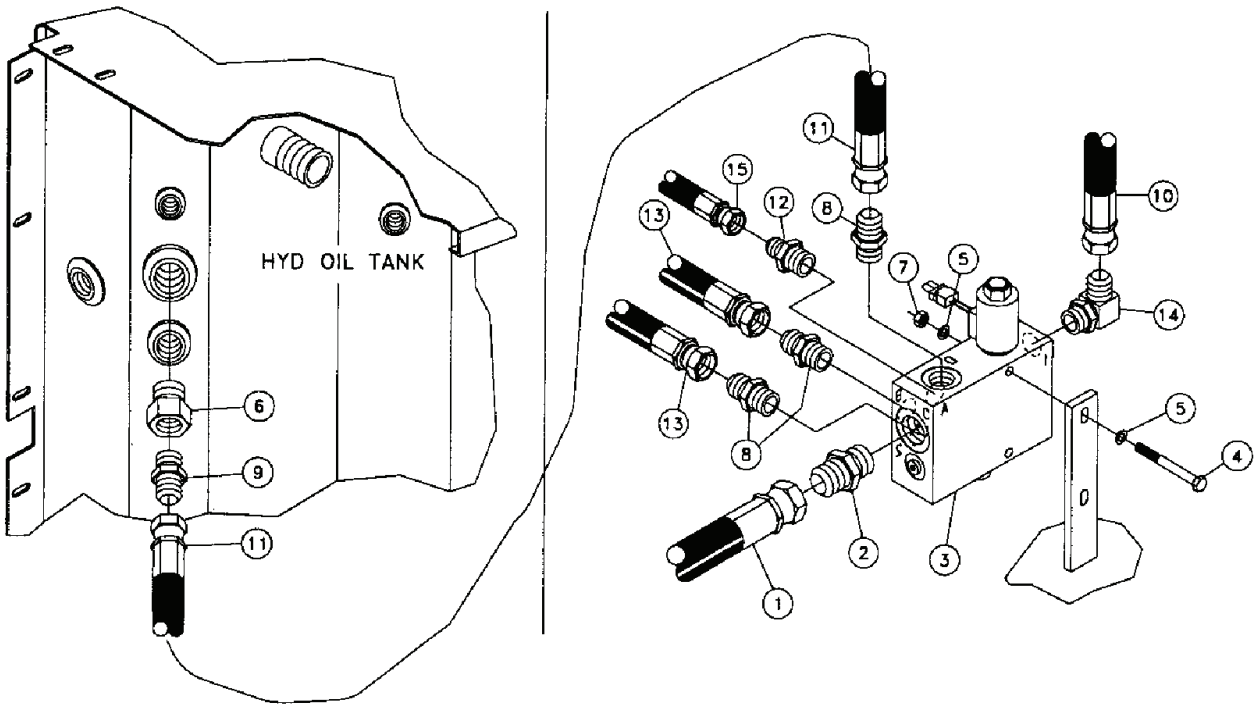


Proportional Valve Assy Fig 6-5r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		53846017	HOSE-1X44 16FS JIC (100R4)	1	
2		60907001	FITTING-16M JICX16M STR ADAPT	1	
3		236494001	VALVE- PROPORTIONAL FLOW	1	Breakdown Fig 6-11
4		16114034	BOLT-3/8-16X3 1/2 HEX HD. GR8	2	
5		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	
6		71252001	FITTING-12FX16M ADAPTER	2	
7		235725001	NUT-3/8-16 GR8 ZINC PLTD	2	
8		53828001	#12M O-RING-#12M JIC ST.	4	
9		229396001	VALVE-85 PSI INLINE CHECK	1	
10		53845303	HOSE-3/4X20 12FS JIC 3000 PSI	1	
11		53845435	HOSE-3/4X26 12FS JIC 3000 PSI	1	
12		53825001	#12M O-RING-#8M JIC ST.	1	
13		53845135	HOSE-3/4X76 12FS JIC (3000PSI)	2	
14		59410001	12M JICX12M ADJ. 90 DEG.ELBOW	1	
15	*	250710001	HOSE-1/2X186 8 FSJIC ST/90 M3K	1	

Proportional Valve Assy Fig 6-5r01

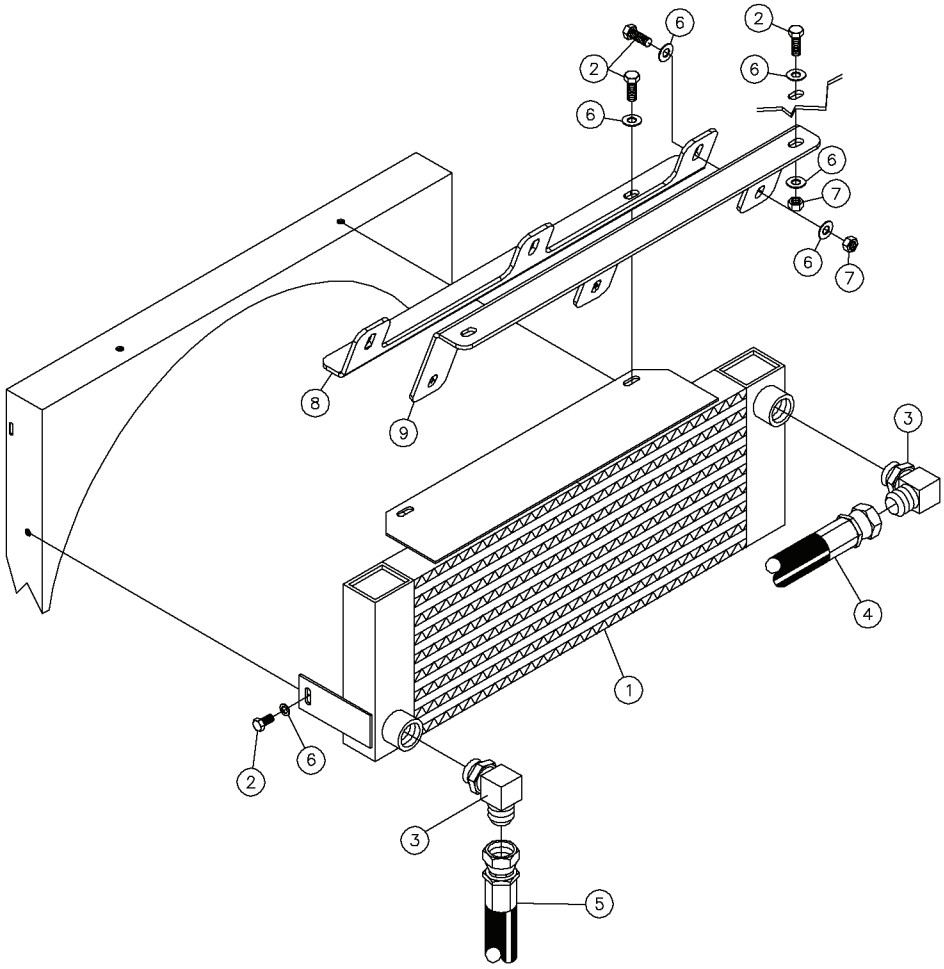
Revised February 1999 due to update in parts list. Changed/ added parts marked with *.



Proportional Valve Assy Fig 6-5r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List
1		53846017	HOSE-1X44 16FS JIC (100R4)	1	
2		60907001	FITTING-16M JICX16M STR ADAPT	1	
3		236494001	VALVE- PROPORTIONAL FLOW	1	Breakdown Fig 6-11
4		16114034	BOLT-3/8-16X3 1/2 HEX HD. GR8	2	
5		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	
6		71252001	FITTING-12FX16M ADAPTER	2	
7		235725001	NUT-3/8-16 GR8 ZINC PLTD	2	
8	*	53828001	#12M O-RING-#12M JIC ST.	4	
9		229396001	VALVE-85 PSI INLINE CHECK	1	
10		53845303	HOSE-3/4X20 12FS JIC 3000 PSI	1	
11		53845435	HOSE-3/4X26 12FS JIC 3000 PSI	1	
12	*	53825001	#12M O-RING-#8M JIC ST.	1	
13		53845135	HOSE-3/4X76 12FS JIC (3000PSI)	2	
14		59410001	12M JICX12M ADJ. 90 DEG.ELBOW	1	
15	*	244283001	HOSE-1/2X166 8FSJIC ST/90 3000	1	

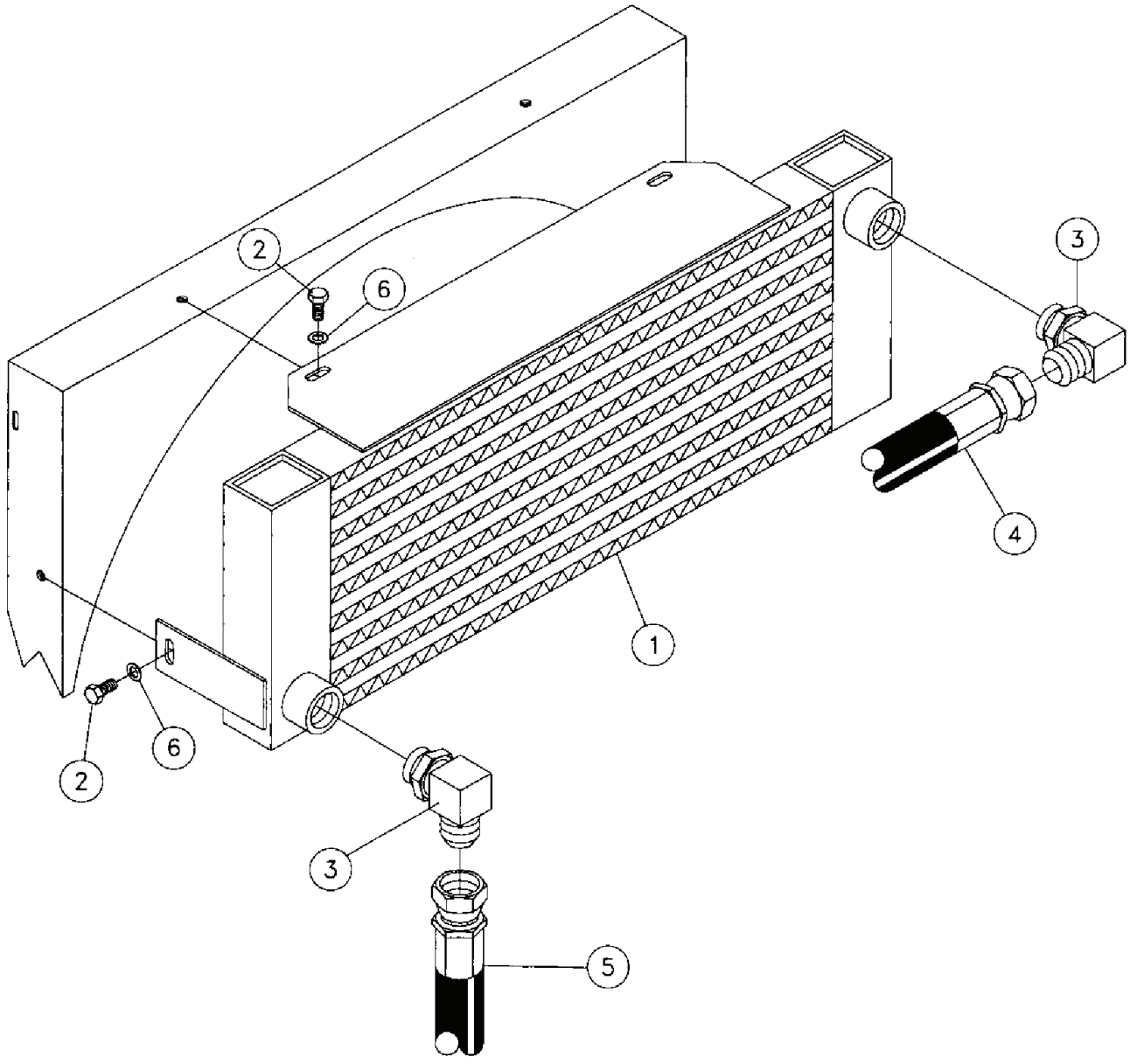
Oil Cooler Assy Fig 6-6r01



Oil Cooler Assy Fig 6-6r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration & Parts List.
1		238572001	COOLER-HYD. OIL (6630018)	1	
2		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLT	9	
3		61703001	16M X 16M JIC 90	2	
4		53846249	HOSE-1X56 16FSJIC/16FSJIC 90	1	
5		53846017	HOSE-1X44 16FS JIC (100R4)	1	
6		235713001	WASHER-3/8 SAE HARD ZINC PLTD	14	
7		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	5	
8		296265238	PLATE - RADIATOR SUPPORT	1	
9		296265239	PLATE - RADIATOR SUPPORT	1	

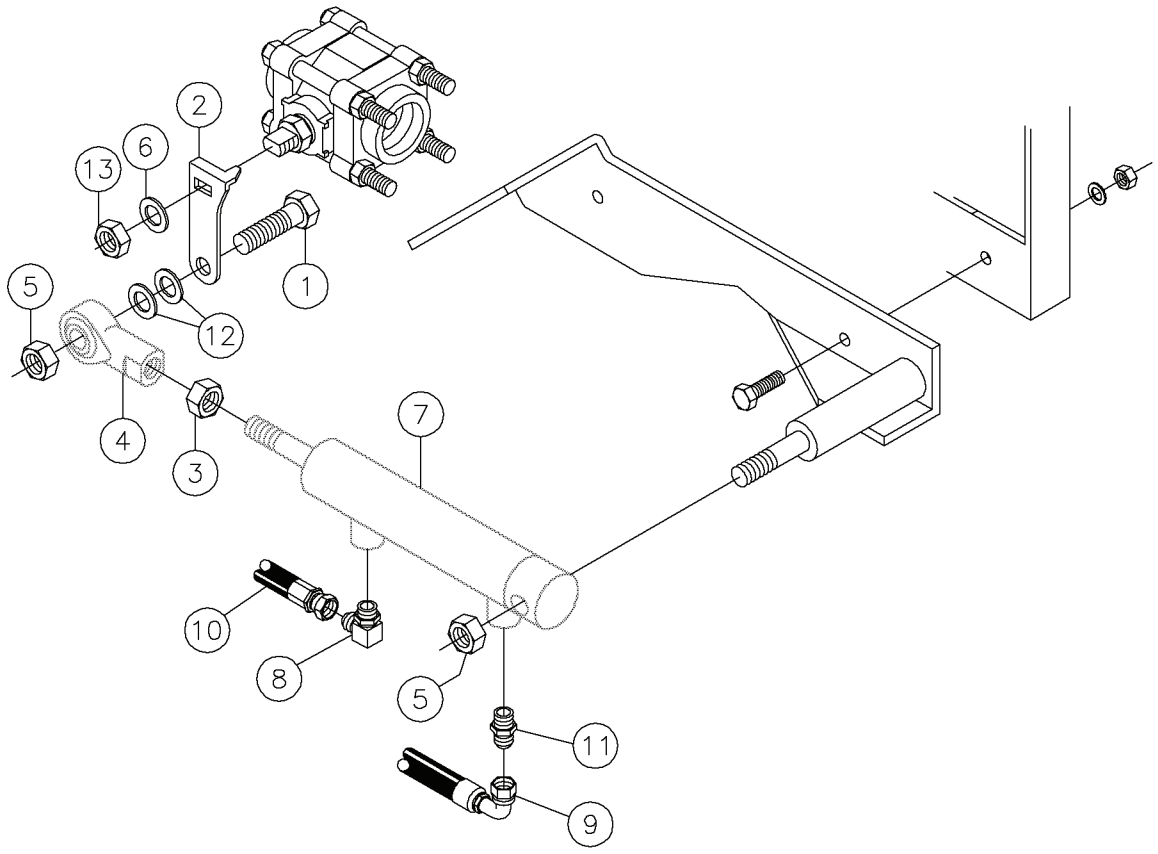
Oil Cooler Assy Fig 6-6



Oil Cooler Assy Fig 6-6

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		238572001	COOLER-HYD. OIL (6630018)	1	
2		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZINC PLT	4	
3		61703001	16M X 16M JIC 90	2	
4		53846249	HOSE-1X56 16FSJIC/16FSJIC 90	1	
5		53846017	HOSE-1X44 16FS JIC (100R4)	1	
6		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	

Water Pump On/Off Cylinder Assy Fig 6-7r02

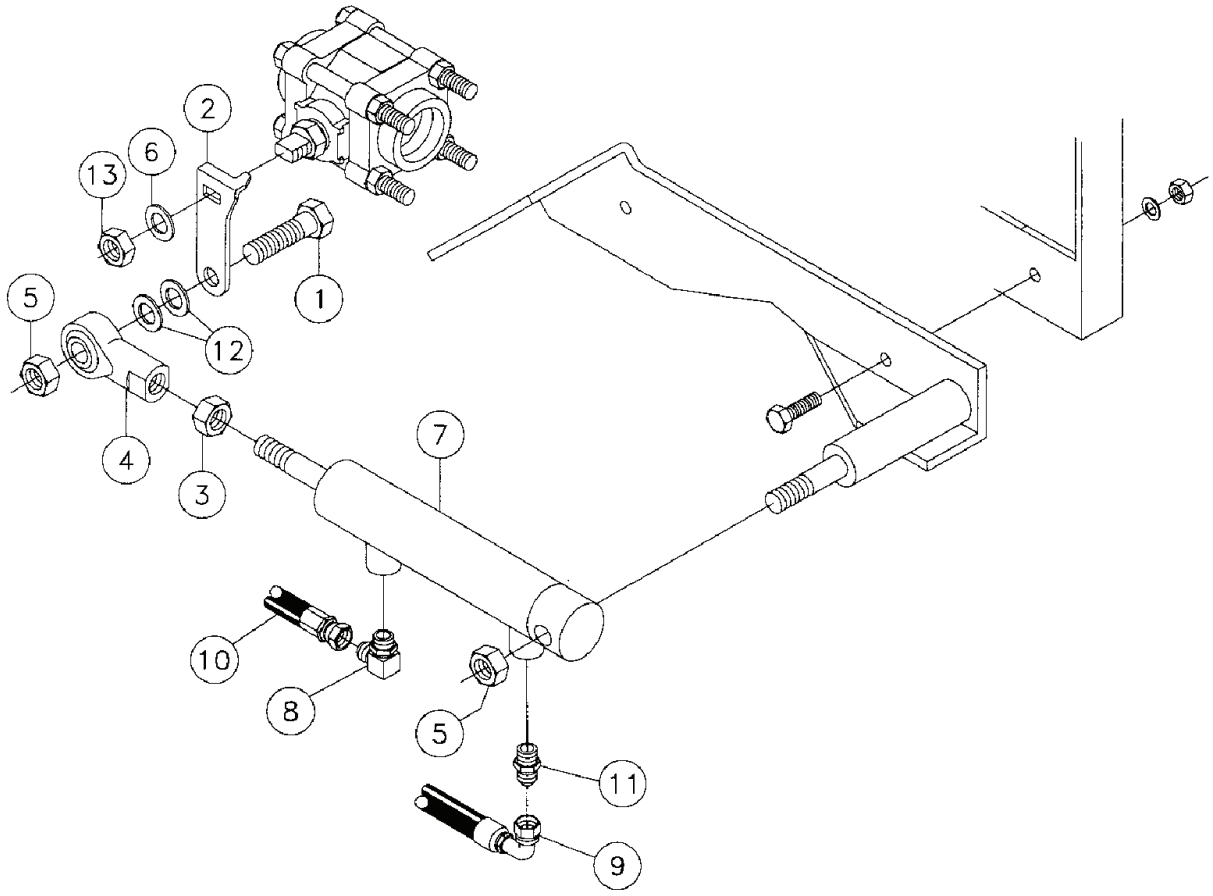


Water Pump On/Off Cylinder Assy Fig 6-7r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		240334001	BOLT-1/2-13X1 3/4 GR8 ZINC PLT	1	
2		278002001	ARM-LEVER	1	
3		451001	NUT-1/2 NF HEX	1	
4		224291001	BALL JOINT-1/2-20 FEMALE THDS.	1	
5		75382001	NUT-1/2-UNC GRADE 8 SLTL	2	
6		245079009	STEM SPRING	1	
7	*	234359001	CYLINDER-1X3 1/2 (VRM-0596-05)	1	Breakdown Fig 6-8r01, S/N 101-1775
	*	287591001	CYLINDER - 1 X 3-1/2	1	Breakdown Fig 6-8r02, S/N 1776-
8		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	1	
9		53843701	HOSE-1/4X42 4FSST/4FS90 2750	1	
10		53843003	HOSE-1/4X36 4FS JIC (100R1)	1	
11		245007001	FITTING-4M ORING X 4MJIC R.063	1	
12		485025	WASHER-1/2 FLAT-HARDENED-ZINC	2	
13		245079003	STEM NUT	1	

Water Pump On/Off Cylinder Assy Fig 6-7r01

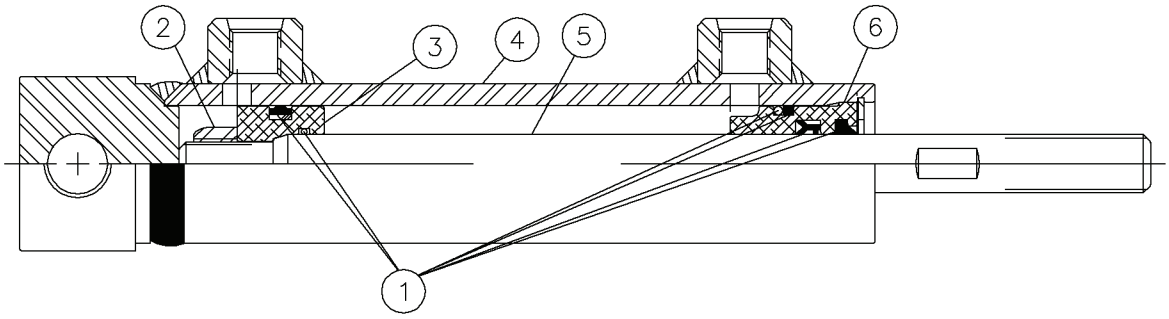
Revised August 1999 due to update
in parts list. Changed part marked with *.



Water Pump On/Off Cylinder Assy Fig 6-7r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	August, 1999		Update In Parts List.
1		240334001	BOLT-1/2-13X1 3/4 GR8 ZINC PLT	1	
2	*	278002001	ARM-LEVER	1	
3		451001	NUT-1/2 NF HEX	1	
4		224291001	BALL JOINT-1/2-20 FEMALE THDS.	1	
5		75382001	NUT-1/2-UNC GRADE 8 SLTL	2	
6		245079009	STEM SPRING	1	
7		234359001	CYLINDER-1X3 1/2 (VRM-0596-05)	1	Breakdown Fig 6-8
8		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	1	
9		53843701	HOSE-1/4X42 4FSST/4FS90 2750	1	
10		53843003	HOSE-1/4X36 4FS JIC (100R1)	1	
11		245007001	FITTING-4M ORING X 4MJIC R.063	1	
12		485025	WASHER-1/2 FLAT-HARDENED-ZINC	2	
13		245079003	STEM NUT	1	

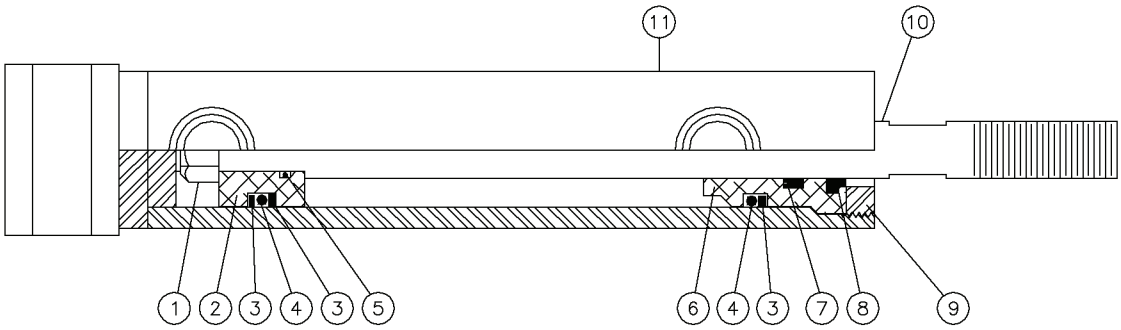
Hyd Cylinder Components - 1" x 3 1/2" (S/N 1776 -) Fig 6-8r02



Hyd Cylinder Components - 1" x 3 1/2" (S/N 1776 -) Fig 6-8r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		296253308	SEAL KIT	1	
2		296253309	LOCKNUT	1	
3		296253310	PISTON	1	
4		296253311	BARREL ASSEMBLY	1	
5		296253312	ROD	1	
6		296253313	SNAP RING HEAD	1	
		287591001	CYLINDER - 1 X 3-1/2		Includes All Items in Figure

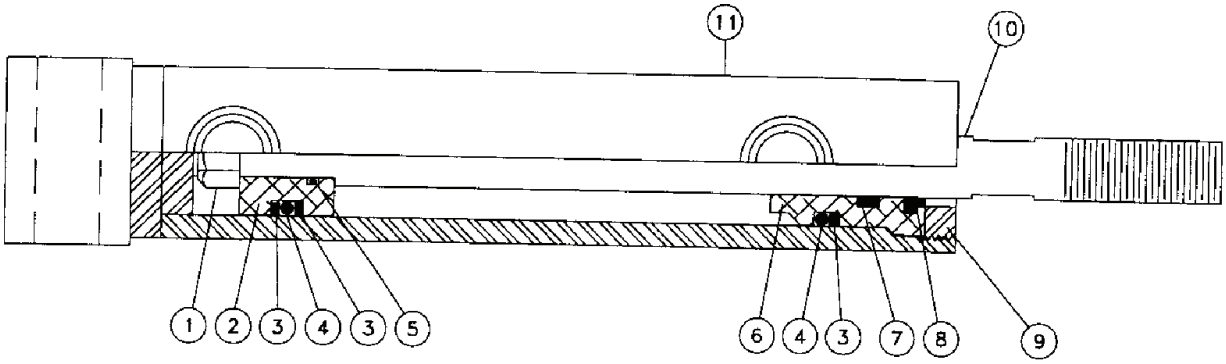
Hyd Cylinder Components - 1" x 3 1/2" (S/N 101 - 1775) Fig 6-8r01



Hyd Cylinder Components - 1" x 3 1/2" (S/N 101 - 1775) Fig 6-8r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Heading.
1		234359003	NUT	1	
2		234359005	PISTON	1	
3		68094057	WASHER-BACK-UP	3	
4		68094055	O-RING	2	
5		1749025	SEAL-O RING	1	
6		234359007	HEAD	1	
7		234359009	SEAL-ROD	1	
8		234359011	SEAL-DUST	1	
9		234359013	COLLAR	1	
10		234359015	SHAFT	1	
11		234359017	BARREL	1	W/Clevis & Ports
		234359001	CYLINDER-1X3 1/2 (VRM-0596-05)		Inc Ref No’s 1-11
		234359019	REPAIR KIT		Inc Ref No’s 3-5, 7 & 8

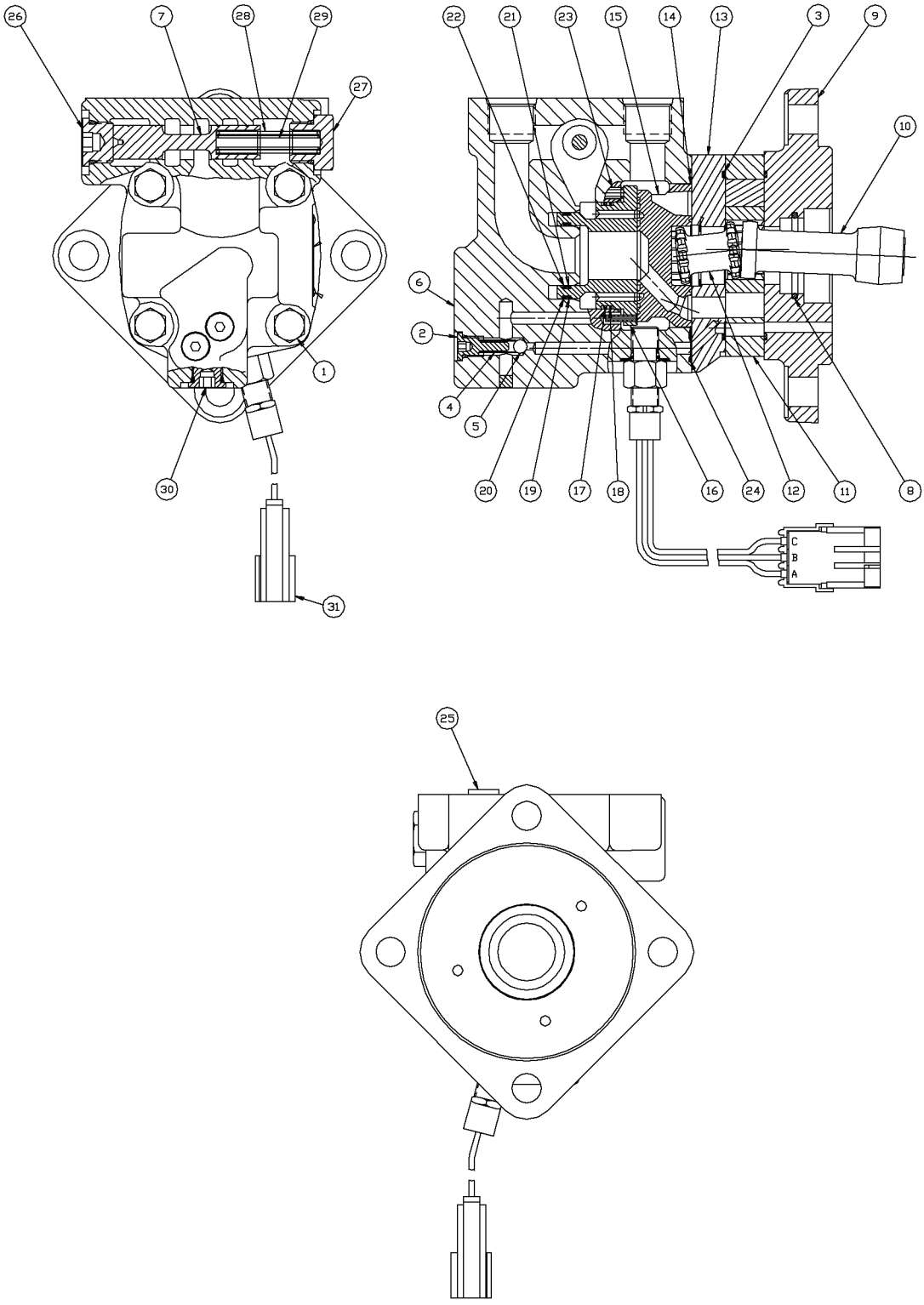
Hyd Cylinder Components - 1" x 3 1/2" Fig 6-8



Hyd Cylinder Components - 1" x 3 1/2" Fig 6-8

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		234359003	NUT	1	
2		234359005	PISTON	1	
3		68094057	WASHER-BACK-UP	3	
4		68094055	O-RING	2	
5		1749025	SEAL-O RING	1	
6		234359007	HEAD	1	
7		234359009	SEAL-ROD	1	
8		234359011	SEAL-DUST	1	
9		234359013	COLLAR	1	
10		234359015	SHAFT	1	
11		234359017	BARREL	1	W/Clevis & Ports
		234359001	CYLINDER-1X3 1/2 (VRM-0596-05)		Inc Ref No's 1-11
		234359019	REPAIR KIT		Inc Ref No's 3-5, 7 & 8

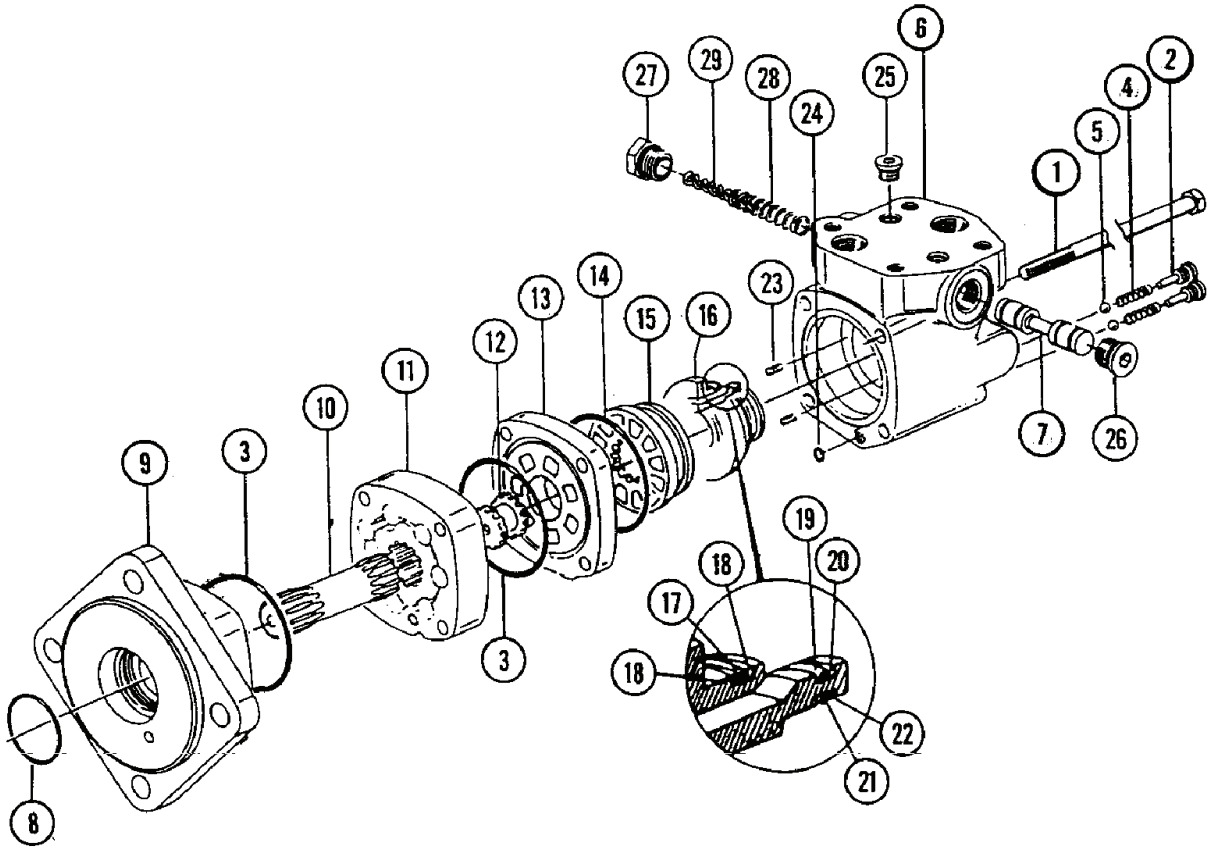
Hyd Motor Components W/Speed Pickup (S/N 1549, 1611 -) Fig 6-9r02



Hyd Motor Components W/Speed Pickup (S/N 1549, 1611 -) Fig 6-9r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		771017	BOLT	4	
2		4485015	CHECKING PLUG ASSY.	2	
3	*	4485011	O-RING-250003-903 (90D)	2	
4	*	770007	SEAL-O RING 9022-6	2	
5	*	770051	SPRING	2	
6	*	275996003	HOUSING	1	
7		20166043	SPOOL-CONTROL	1	
8		221557007	SEAL-O-RING	1	
9		221557009	FLANGE-MOUNTING (BEARING LESS)	1	
10		770081	DRIVE	1	
11		NSS	GEROLER ASSY.	1	
12		774011	DRIVE-VALVE	1	
13	*	275996002	PLATE - VALVE	1	
14		201666009	SEAL	1	
15		220749003	VALVE	1	
16		201666013	RING ASSY.-BALANCING	1	
		201666015	PIN-SPRING	2	
17		201666023	O-RING	1	
18		201666021	RING-BACKUP	2	
19		201666025	O-RING	1	
20		201666027	RING-BACKUP	1	
21		201666017	O-RING	1	
22		201666019	RING-BACKUP	1	
23		770039	SPRING	1	
24		1749025	SEAL-O-RING	1	
25		4485021	PLUG ASSY.	1	
		4485023	O-RING	1	
26		66845001	PLUG ASSY.	1	
		4343031	O-RING	1	
27		201666035	PLUG-ASSY.	1	
		4343031	O-RING	1	
28		201666041	SPRING-COMPRESSION	1	
29		201666039	SPRING-COMPRESSION	1	
30	*	500659021	SAE PLUG	1	
31	*	251106009	SPEED PICKUP - ELECTRONIC	1	
		275996001	MOTOR - HYD. (EATON) 2 SP.		Inc Ref No's 1-29
		221557003	REPAIR KIT		Inc Ref No's 3, 8, 14, 17-22 & 25-27

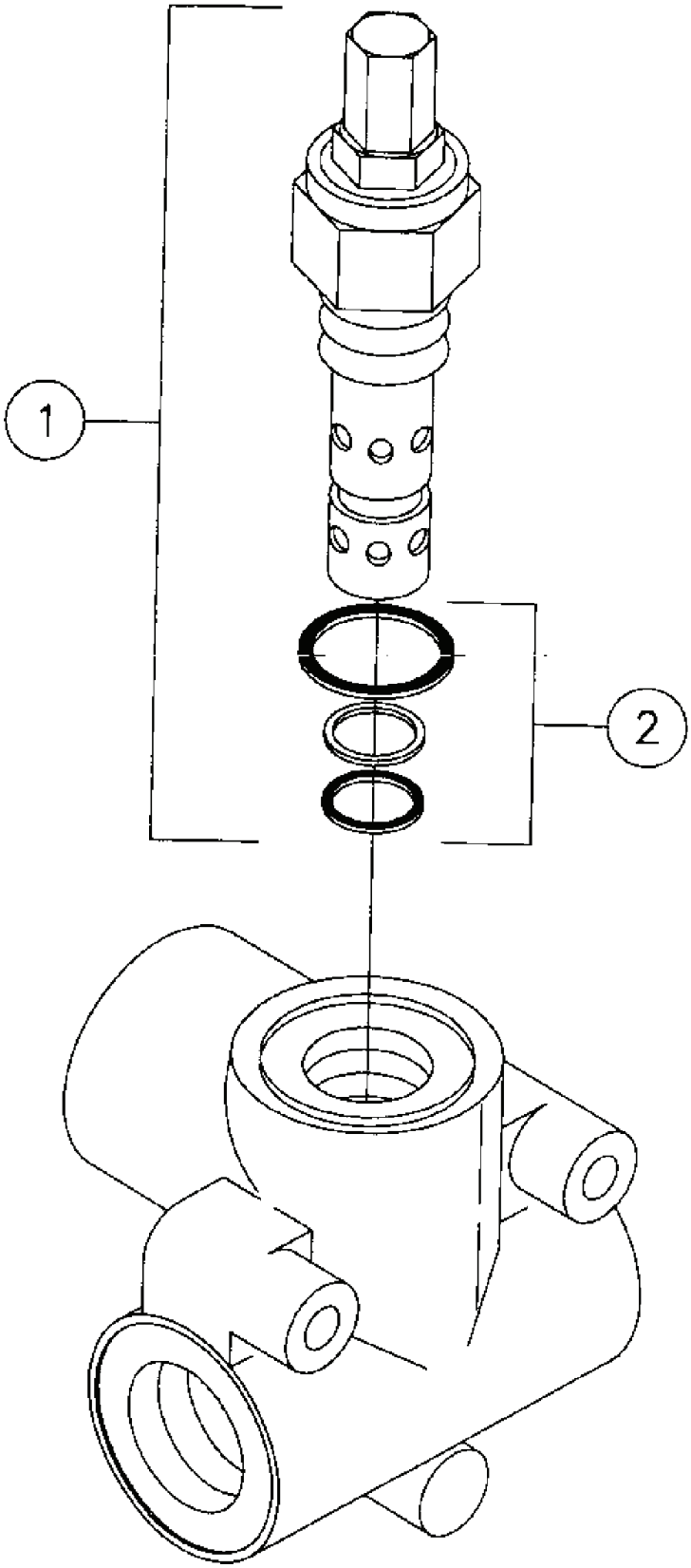
Hyd Motor Components (S/N 101-1548, 1550-1610) Fig 6-9r01



Hyd Motor Components (S/N 101-1548, 1550-1610) Fig 6-9r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Heading
1		771017	BOLT	4	
2		4485015	CHECK PLUG ASSY	2	
2		4485011	O-RING)	2	
3		770007	SEAL-O RING	2	
4		770051	SPRING	2	
5		770049	BALL	2	
6		201666029	HOUSING ASSY	1	
7		201666043	SPOOL-CONTROL	1	
8		221557007	SEAL-O-RING	1	
9		221557009	FLANGE-MOUNTING (BEARING LESS)	1	
10		770081	DRIVE	1	
11		NSS	GEROLER ASSY.	1	
12		774011	DRIVE-VALVE 8433	1	
13		201666007	PLATE-VALVE	1	
14		201666009	SEAL	1	
15		220749003	VALVE	1	
16		201666013	RING ASSY-BALANCING	1	
16		201666015	PIN-SPRING	2	
17		201666023	O-RING	1	
18		201666021	RING-BACKUP	2	
19		201666025	O-RING	1	
20		201666027	RING-BACKUP	1	
21		201666017	O-RING	1	
22		201666019	RING-BACKUP	1	
23		770039	SPRING	2	
24		1749025	SEAL-O RING	1	
25		4485021	PLUG ASSY	1	
25		4485023	O-RING	1	
26		66845001	PLUG ASSY	1	
26		4343031	O-RING	1	
27		201666035	PLUG ASSY	1	
27		4343031	O-RING	1	
28		201666041	SPRING-COMPRESSION	1	
29		201666039	SPRING-COMPRESSION	1	
		228098003	MOTOR-HYD.		Inc Ref No's 1-29
		221557003	REPAIR KIT		Inc Ref No's 3, 8, 14, 17-22 & 25-27
		Note:	When Ordering Replacement Parts		Include Product No 106-2005-001 With Order

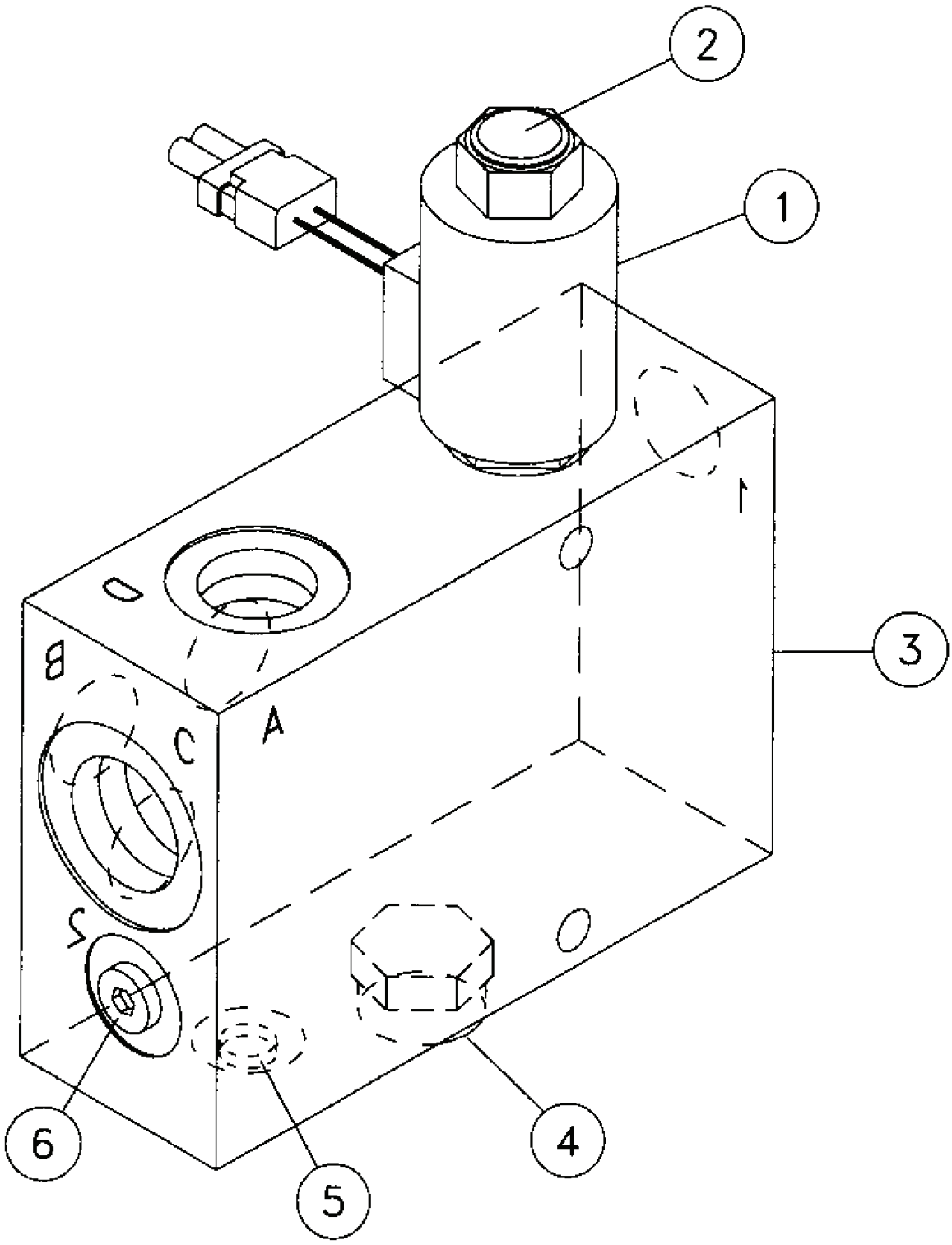
Inline Relief Valve Components Fig 6-10



Inline Relief Valve Components Fig 6-10

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228266003	CARTRIDGE-2000 PSI RELIEF	1	
		228251003	CARTRIDGE-2500 PSI RELIEF	1	
		228252003	CARTRIDGE-3000 PSI RELIEF	1	
2		213758017	SEAL KIT-RELIEF	1	Includes Internationalernal & External Seals
		228251001	VALVE-2500 PSI RELIEF		Inc Body & Ref No 1

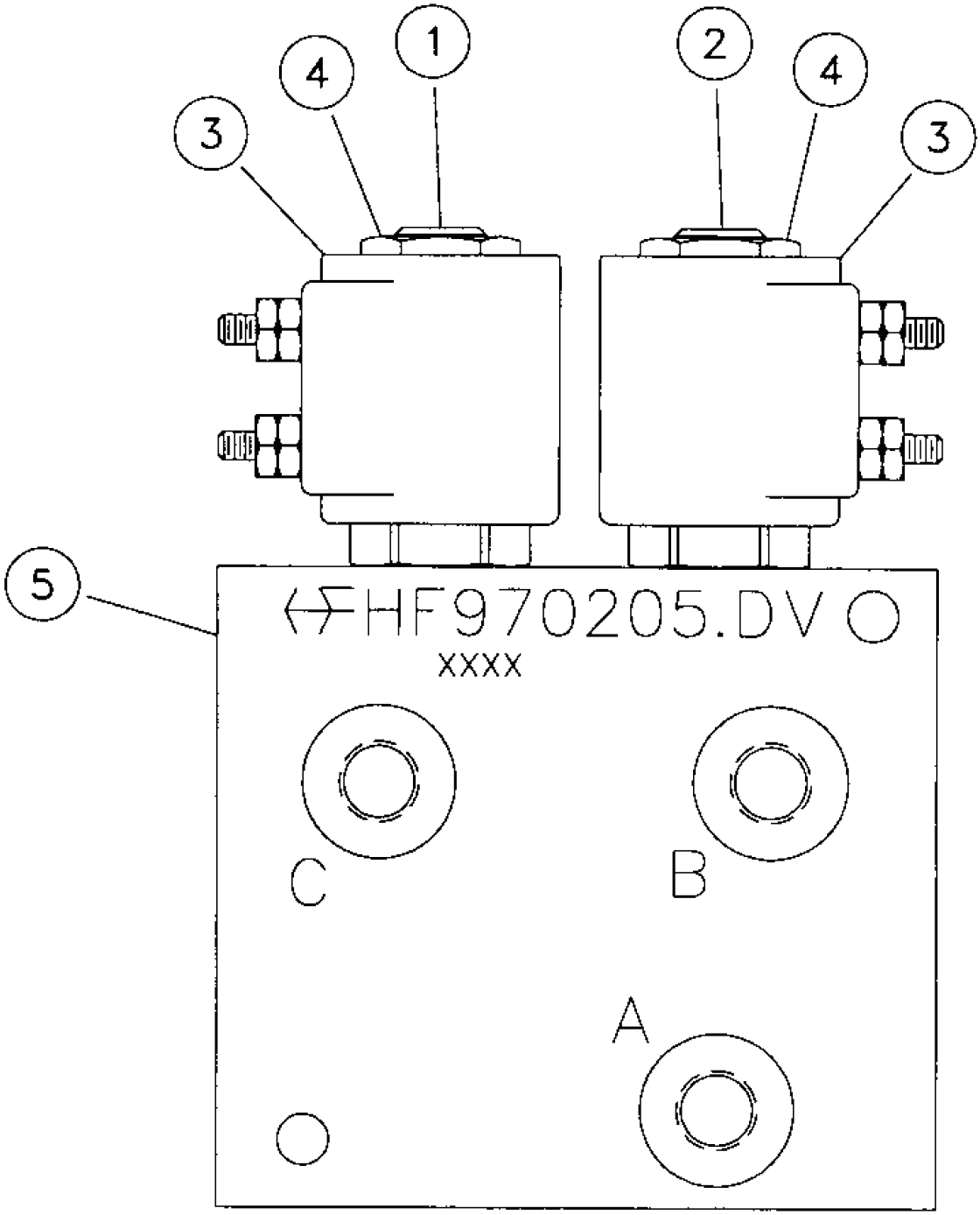
Proportional Valve Components Fig 6-11



Proportional Valve Components Fig 6-11

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		236494003	COIL	1	
2		228096005	PV VALVE ASSY.	1	
		228096007	SEAL KIT		
3		NSS	BODY	1	
4		228096011	COMPENSATOR ASSY	1	
		228096013	SEAL KIT		
5		500659021	SAE PLUG	1	
		228128015	SEAL KIT		
6		236494005	PLUG SAE	4	
		236494007	SEAL KIT		
		236494001	VALVE- PROPORTIONAL FLOW		Includes All Items In Figure
		NSS	Not Sold Separately		

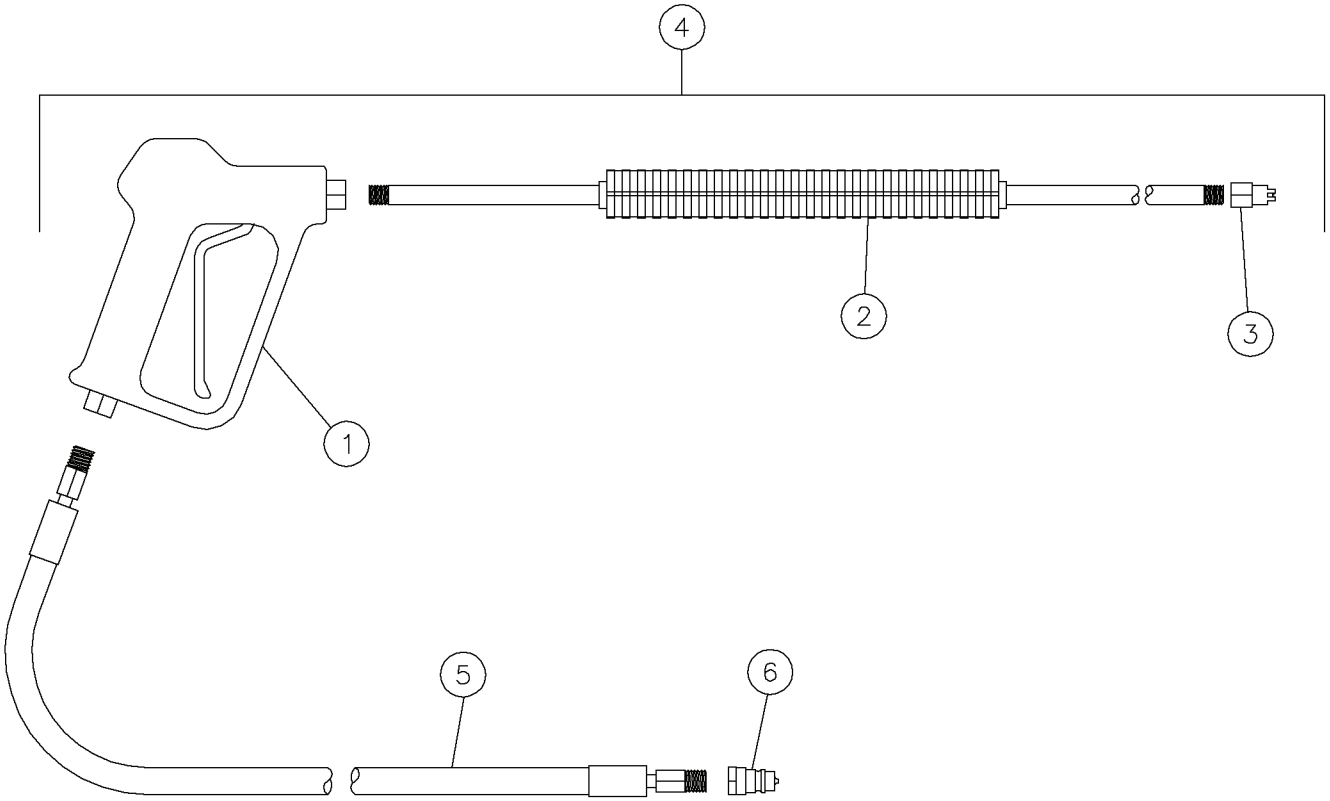
Solenoid Valve Components Fig 6-12



Solenoid Valve Components Fig 6-12

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228124017	CARTRIDGE-SOLENOID	1	
		110467003	SEAL KIT		
2		234863005	CARTRIDGE	1	
		236409003	SEAL KIT		
3		240941003	COIL	2	
4		224886007	NUT-COIL	2	
5		NSS	Body	1	
		240945001	VALVE-2 SPEED WATER PUMP		Inc Ref No's 1-4
		NSS	Not Sold Separately		

Wand Assy Fig 7-1r02

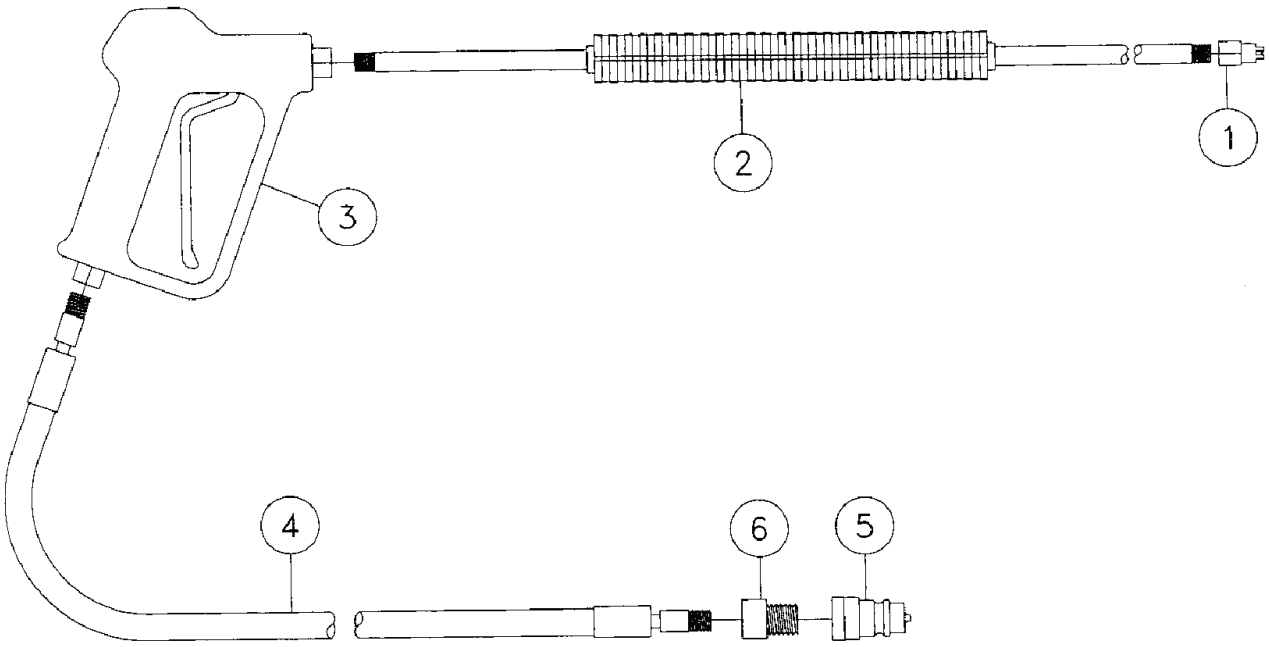


Wand Assy Fig 7-1r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		904578001	GUN HANDLE	1	
2		904577001	MOLDED LANCE	1	
3		904576001	SPRAY NOZZLE	1	
4		285927001	GUN ASSY	1	Inc. Ref No's 1-3
5		282761001	HOSE-3/8X500 3/8MSNPT/1/2MNPT 100R2	1	
6		227236001	COUPLER-1/2" NPT QUICK(MALE)	1	
		240264001	WAND ASSY		Inc. Ref No's 1-5

Wand Assy Fig 7-1r01

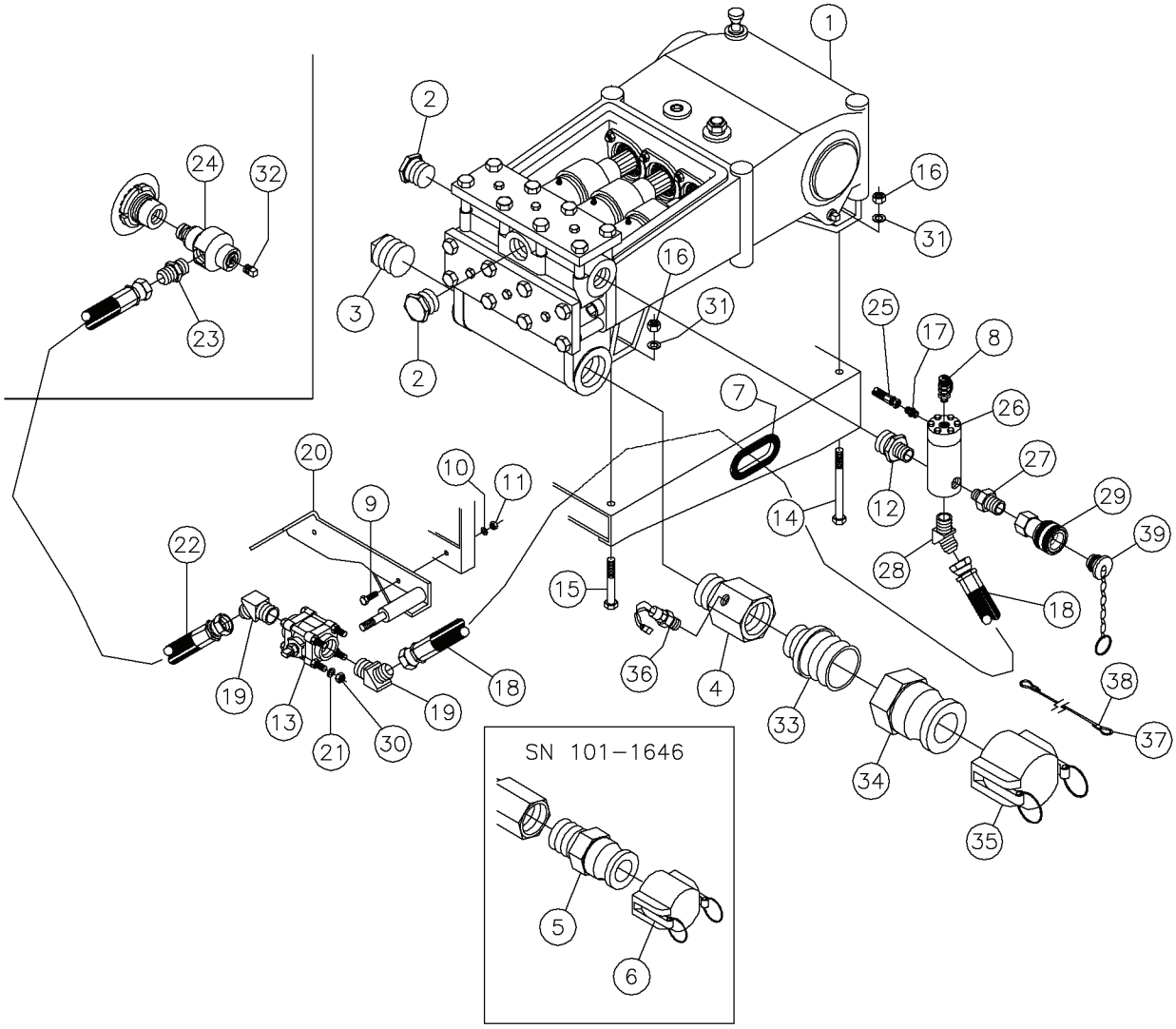
Revised August 1999 due to update
in parts list. Changed parts marked with *.



Wand Assy Fig 7-1r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	August, 1999		Update In Parts List
1		904576001	SPRAY NOZZLE	1	
2		904577001	MOLDED LANCE	1	
3		904578001	GUN HANDLE	1	
4	*	129692001	HOSE-3/8X 300 1/4M/3/8MS NPTF	1	
5	*	227236001	COUPLER-1/2” NPT QUICK(MALE)	1	
6	*	730003	1/2” X 1/4” HEX BUSHING STEEL	1	
	*	227891001	WASH WAND ASSY-D50		Inc Ref No’s 1-6

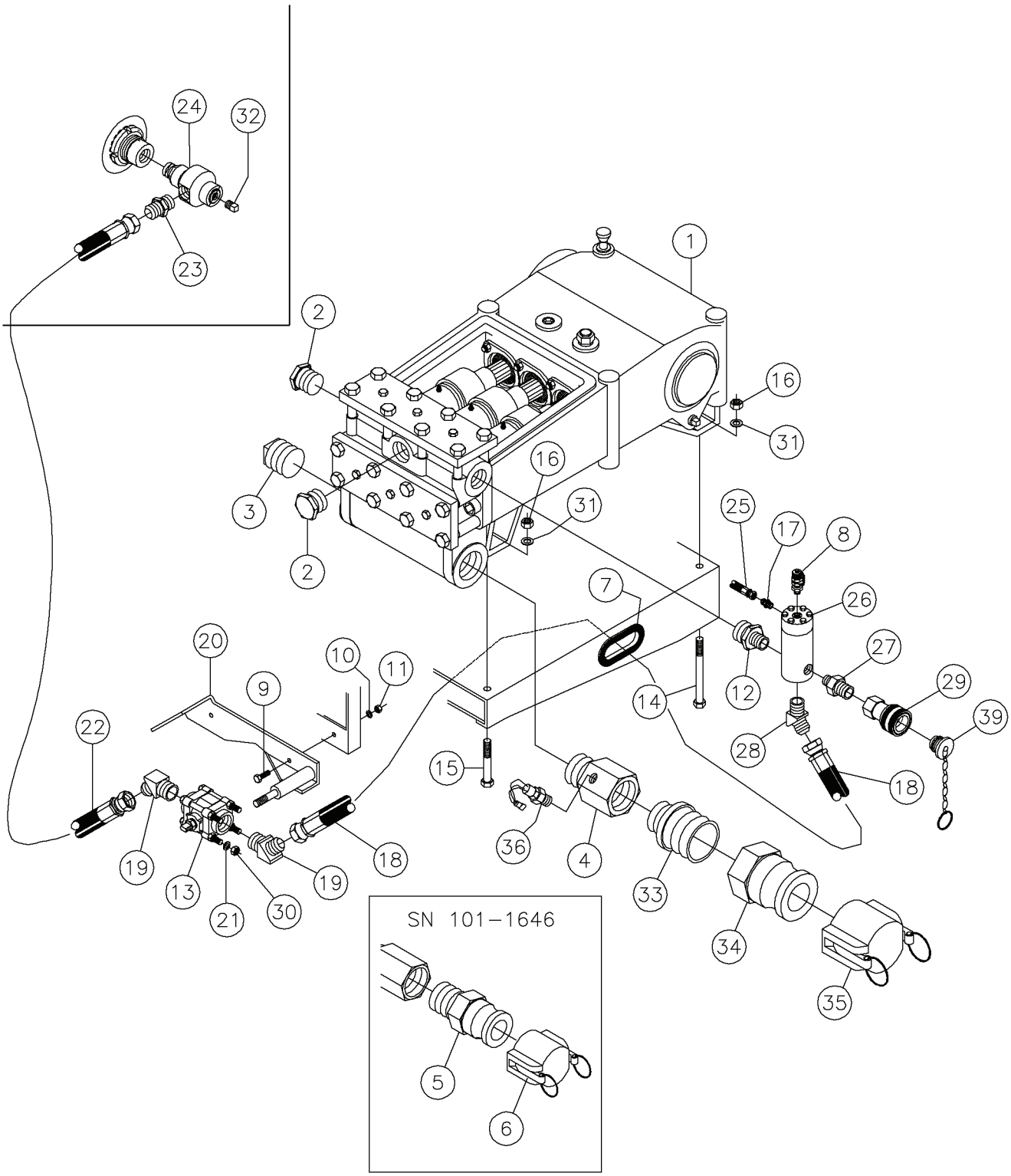
Water Pump Assy Fig 7-2r03



Water Pump Assy Fig 7-2r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		224904005	PUMP-WATER	1	Breakdown Fig 7-4
2		120885001	FITTING-1 1/4 NPT PIPE PLUG	2	
3		732019	FITTING 2" PIPE PLUG BLACK	1	
4		236472001	FITTING-2"MX3/4"FX2"M NPT TEE	1	
5		224940001	COUPLING-2" MPT X2"M CAM LOCK	1	S/N 101-1646
6		224941001	CAP-2" CAM LOCK	1	
7		212522001	TRIM-1/4 EDGE	A/R	P/N Qty Of 1 = 1 Foot
8		75493001	FITTING - TEST - 4MORB - 16MTP	1	
9		238209001	BOLT-5/16-18X1 GR8 HEX ZINC YC	2	
10		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	2	
11		235741001	NUT - HEX - .31 - 18 - GR8 -YZ	2	
12		120886001	FITTING-PIPE COUPLING NPT	1	
13		245079001	VALVE - 1" HIGH PRESSURE STL BALL	1	Breakdown Fig 7-5
14		238240001	BOLT 1/2"-13 X 5 1/2" GR8 HEX Y	2	
15		238241001	BOLT 1/2" - 13 X 3 1/2" GR8 HEX Y	2	
16		235731001	NUT - 1/2 -13 GR8 ZINC PLTD	4	
17		60908001	FITTING-4M X 4M JIC STR ADAPTER	1	
18		53845573	HOSE - 3/4 X 33 12FS JIC 3000 PSI	1	
19		100849001	FITTING-IMNPT X 12M JIC 45 DEG.	2	
20		245074001	SUPPORT-BALL VALVE	1	
21		235713001	WASHER - 3/8 SAE HARD ZINC PLTD	4	
22	*	53845835	HOSE-3/4X175 12FSJIC 3000PSI	1	
23	*	53828001	#12M O-RING-#12M JIC ST.	1	
24		230813001	SWIVEL - 12M X 12F	1	
24		224904007	REPAIR KIT		Includes O-Rings & Seals
25		53843721	HOSE-1/4X206 4FSJICST 3000PSI	1	
26	*	296256061	MANIFOLD ASSEMBLY - WATER PRESSURE	1	Breakdown Fig 7-7r02, Replaces 250611001
27	*	707003	1/2" NPT HEX NIPPLE REF T05385	1	
28		53666001	3/4M PIPE - #12M JIC 45 DEG.	1	
29	*	227235001	COUPLER-1/2"NPT QUICK(FEMALE)	1	
30		250508001	NUT-3/8-NC GR8 TOP LOCK Y/ZINC	4	
31		485025	WASHER-1/2 FLAT-HARDENED-ZINC	4	
32		732005	3/8" PIPE PLUG BLACK STEEL	1	
33		221506001	NIPPLE-REDUCING 3X2 MPT (POLY)	1	S/N 1647 -
34		275759001	COUPLINE-3"MTPT X3" FPT (POLY)	1	S/N 1647 -
35		215429001	CAP-3" CAM LOCK	1	S/N 1647 -
36		287554001	SWITCH - 10 PSI NO/NC	1	S/N 1549, 1611 -
37	*	1830007	HINGE PIN CABLE	A/R	P/N Qty Of 1 = 1 Foot
38	*	1838001	CONNECTOR-WIRE (ETC)	2	
39	*	234679001	CAP-DUST	1	

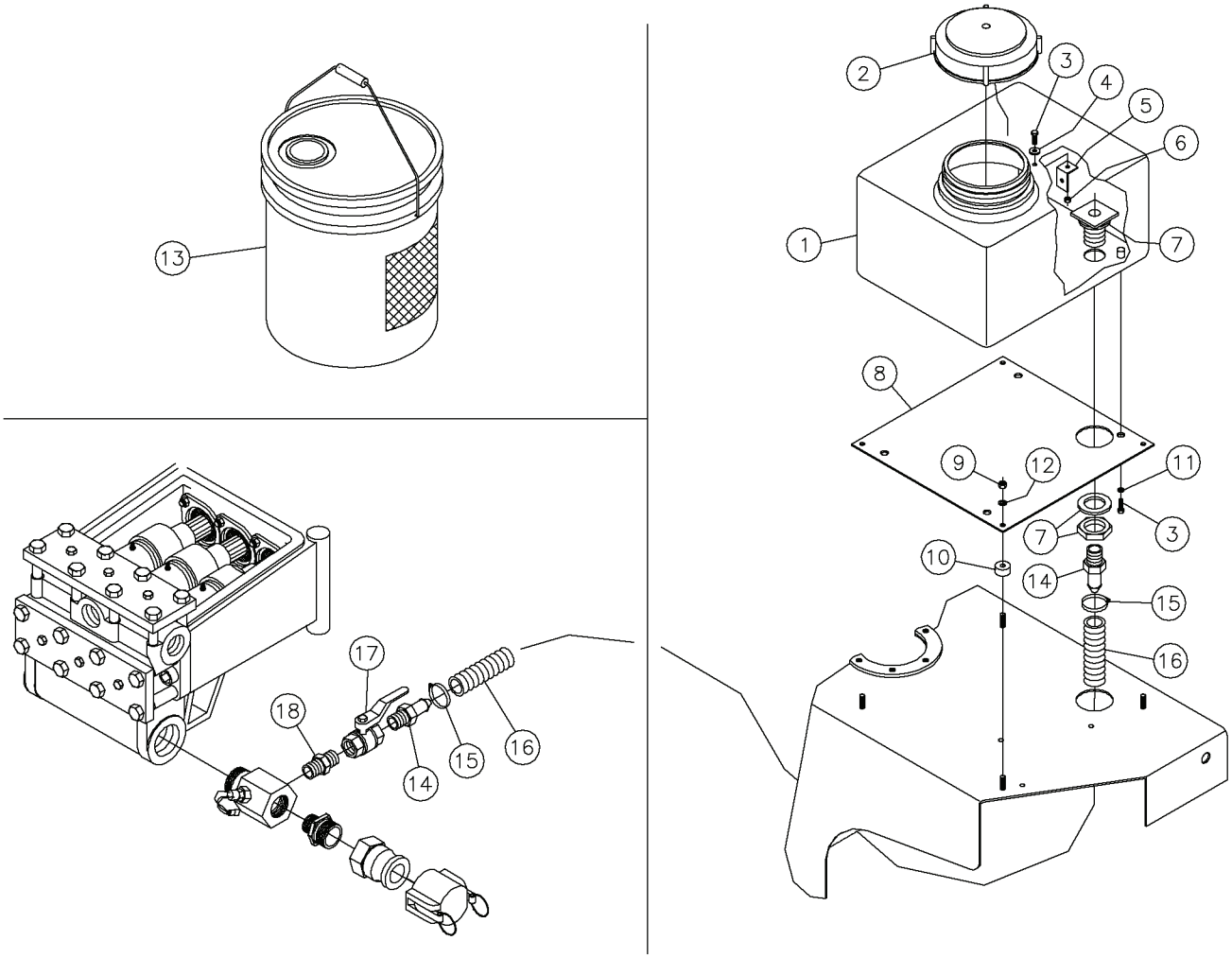
Water Pump Assy Fig 7-2r02



Water Pump Assy Fig 7-2r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration
1		224904005	PUMP-WATER	1	Breakdown Fig 7-4
2		120885001	FITTING-1 1/4 NPT PIPE PLUG	2	
3		732019	FITTING 2" PIPE PLUG BLACK	1	
4		236472001	FITTING-2"MX3/4"FX2"M NPT TEE	1	
5		224940001	COUPLING-2" MPT X2"M CAM LOCK	1	S/N 101-1646
6		224941001	CAP-2" CAM LOCK	1	
7		212522001	TRIM-1/4 EDGE	A/R	P/N Qty Of 1 = 1 Foot
8		75493001	FITTING - TEST - 4MORB - 16MTP	1	
9		238209001	BOLT-5/16-18X1 GR8 HEX ZINC YC	2	
10		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	2	
11		235741001	NUT - HEX - .31 - 18 - GR8 -YZ	2	
12		120886001	FITTING-PIPE COUPLING NPT	1	
13		245079001	VALVE - 1" HIGH PRESSURE STL BALL	1	Breakdown Fig 7-5
14		238240001	BOLT 1/2"-13 X 5 1/2" GR8 HEX Y	2	
15		238241001	BOLT 1/2" - 13 X 3 1/2" GR8 HEX Y	2	
16		235731001	NUT - 1/2 -13 GR8 ZINC PLTD	4	
17		60908001	FITTING-4M X 4M JIC STR ADAPTER	1	
18		53845573	HOSE - 3/4 X 33 12FS JIC 3000 PSI	1	
19		100849001	FITTING-IMNPT X 12M JIC 45 DEG.	2	
20		245074001	SUPPORT-BALL VALVE	1	
21		235713001	WASHER - 3/8 SAE HARD ZINC PLTD	4	
22		53845339	HOSE - 3/4 X 156 12FS JIC 3000 PSI	1	
23		60718001	12M JIC X 12M ADJ. 45 DEG. EL	1	
24		230813001	SWIVEL - 12M X 12F	1	
24		224904007	REPAIR KIT		Includes O-Rings & Seals
25		53843721	HOSE-1/4X206 4FSJICST 3000PSI	1	
26		250611001	WATER PRESSURE MANIFOLD ASS'Y	1	Breakdown Fig 7-7
27		111483001	FITTING-3/4 MNPT X 1/2 MNPT NIPPLE	1	
28		53666001	3/4M PIPE - #12M JIC 45 DEG.	1	
29		221512001	COUPLER-3/4 NPT QUICK (FEMALE)	1	
30		250508001	NUT-3/8-NC GR8 TOP LOCK Y/ZINC	4	
31		485025	WASHER-1/2 FLAT-HARDENED-ZINC	4	
32		732005	3/8" PIPE PLUG BLACK STEEL	1	
33		221506001	NIPPLE-REDUCING 3X2 MPT (POLY)	1	S/N 1647 -
34		275759001	COUPLINE-3"MTPT X3" FPT (POLY)	1	S/N 1647 -
35		215429001	CAP-3" CAM LOCK	1	S/N 1647 -
36		287554001	SWITCH - 10 PSI NO/NC	1	S/N 1549, 1611 -

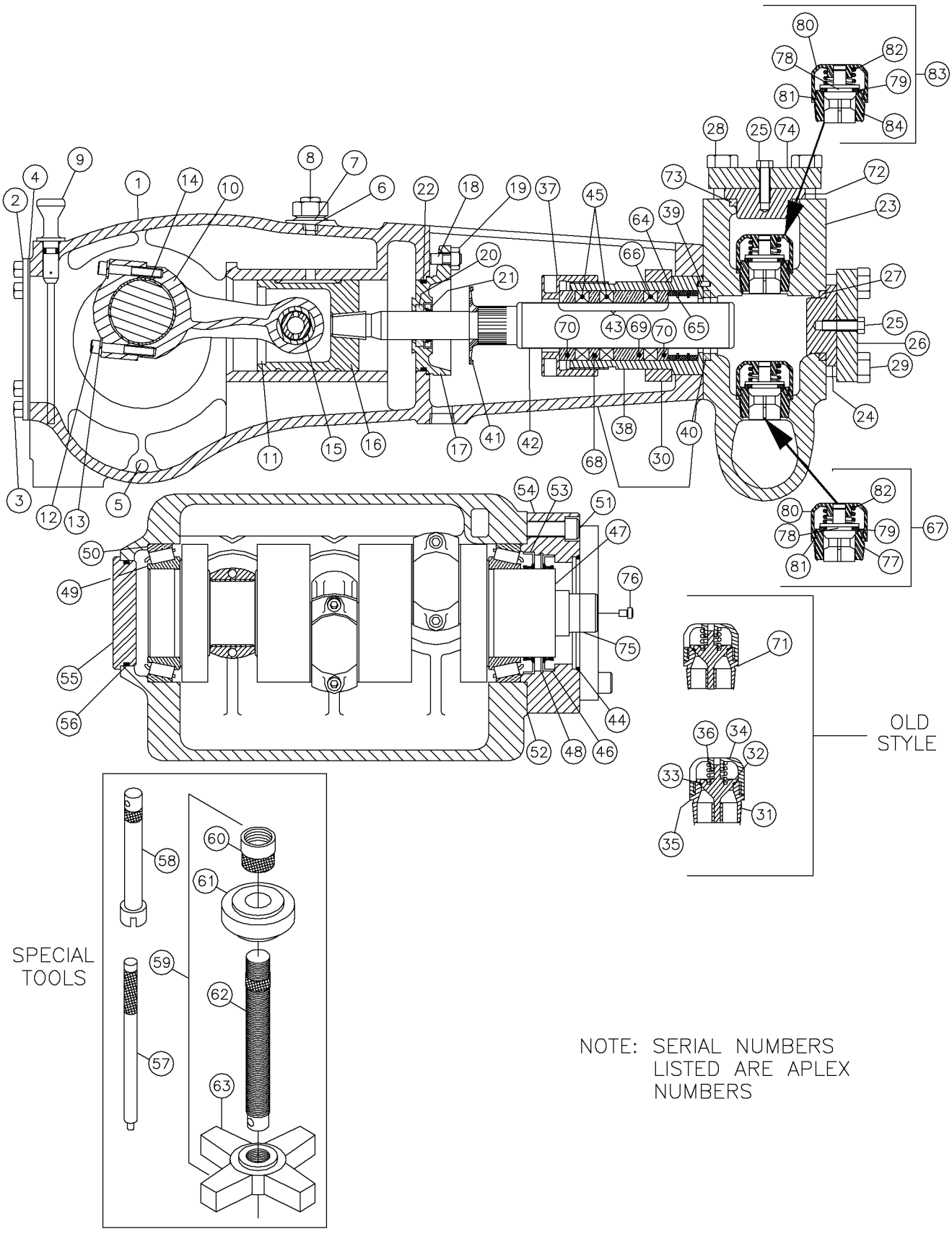
Anti-Freeze System Assy Fig 7-3r03



Anti-Freeze System Assy Fig 7-3r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration
1		236466001	TANK-6 GALLON POLY	1	Inc Ref No's 2-7
2		236466003	LID-TANK W/ STRING	1	
3		235734001	BOLT-1/4-20X3/4 GR8 ZINC PLTD	5	
4		236466005	WASHER-1/4" SEAL	1	
5		236466007	CLIP	1	
6		235732001	NUT - HEX - .25 - 20 - GR8 - YZ	1	
7		904062005	3/4" BUNG	1	
8		236471001	PLATE-TANK MOUNT	1	
9		235741001	NUT - HEX - .31 - 18 - GR8 -YZ	4	
10		244251001	DISC-RUBBER SPACER	4	
11		235716001	WASHER - FLATSTRL - .25 -.28 X .63 - .06 - CZ	4	
12		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06	4	
13		210779001	NAVIGATOR FREEZE GUARD	1	Shown, 5 Gallon
		70000675	DECAL-NAVIGATOR FREEZE GUARD	1	5 Gallon
		210779005	NAVIGATOR FREEZE GUARD	1	55 Gallon
		7000A027	DECAL-NAVIGATOR FREEZE GUARD	1	55 Gallon
14		905437001	FITTING-3/4X1 BARB ST.NYLON	2	
15		1580005	HOSE CLAMP - 1"	2	
16		244288001	HOSE-SUCTION	1	
17		3379001	VALVE - 3/4" BALL - #101R NPT	1	
18		707007	NIPPLE-3/4 HEX	1	

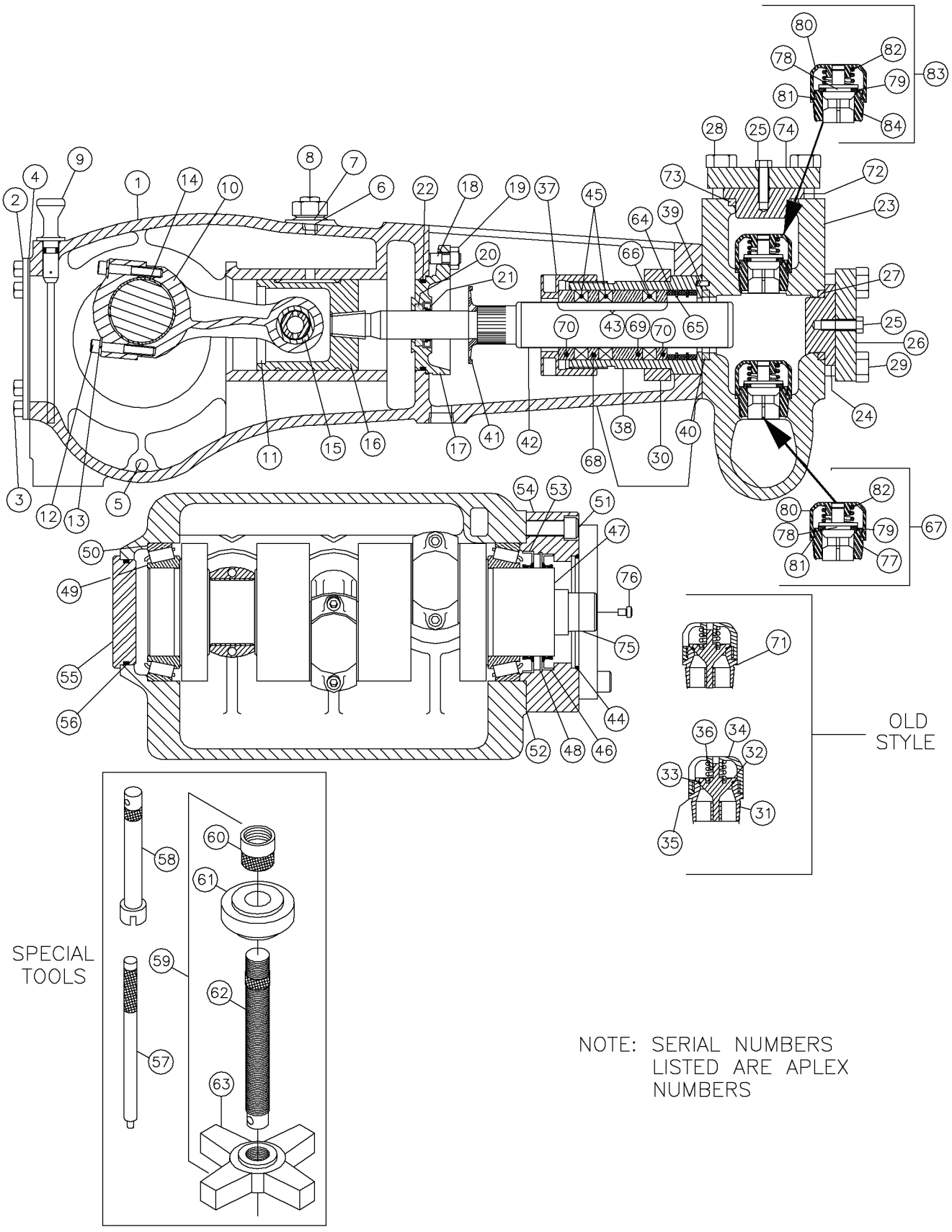
Water Pump Components Fig 7-4r04



Water Pump Components Fig 7-4r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
		NOTE:	SERIAL NUMBERS LISTED ARE APLEX NUMBERS		
1		220741003	POWER FRAME (PUMP W/DIPSTICK)	1	S/N 0-999
		228098005	POWERFRAME	1	S/N 1000 -
2		220741007	CRANKCASE COVER	1	
3		220741009	3/8-16X5/8 HHCS	8	
4		220741011	GASKET-CRANKCASE COVER	1	
5		220741013	1/4” NPT PLUG-SQUARE HEAD	2	
6		220741015	1/8” NPT PLUG-SOCKET HEAD	3	
7		220741017	1/2” NPT PLUG-SOCKET HEAD	1	
8		220741019	BREATHER-CRANKCASE 3/4M NPT	1	
9		220741021	OIL LEVEL DIPSTICK	1	
		220741023	O-RING 2-023	1	
10		220741025	CONNECTING ROD	3	Inc Ref No’s 11-13
11		220741027	WRIST PIN BUSHING	3	
12		220741029	5/16-18X2” SOCKET HD CAP SCREW	6	
13		220741031	5/16” LOCKWASHER	6	
14		220741033	CRANK PIN BEARING HALF	6	2 PCS
15		220741035	WRIST PIN	3	
16		220741037	CROSSHEAD	3	
17		220741039	WIPER BOX	3	
18		220741041	STUD-3/8”-16X1 5/8”	6	
19		220741043	3/18” - 16 HEX NUT	6	
20		220741045	POLYPAK RING	3	
21		220741047	OIL SEAL	3	
22		220741049	O-RING	3	
23		251787001	FLUID END BODY ASSY	1	S/N 0-2999, Inc One Of Ref No 74 & Inc Three Of Ref No’s 71-73
		248821001	BODY-FLUID END	1	S/N 3000 -
		220741053	3/4”-10 X 2 SOCKET HD CAP SCREW	2	
24		220741055	VALVE COVER & CYL HD PLUG	3	
25		220741057	3/8 - 16 X 1 1/4” HHCS	6	
26		220741059	RETAINER PLATE	1	
27		220741061	FLUID SEAL - NITRILE RUBBER	3	
28		220741063	5/8-11 X 3 1/2” HHCS	8	
29		220741065	5/8-11 X 7 1/2” HHCS	8	
30		220741067	STUFFING BOX RETAINER PLATE	3	
		220741069	3/8-16 X 1 1/2” HHCS	6	
			Continued On Next Two Page’s		

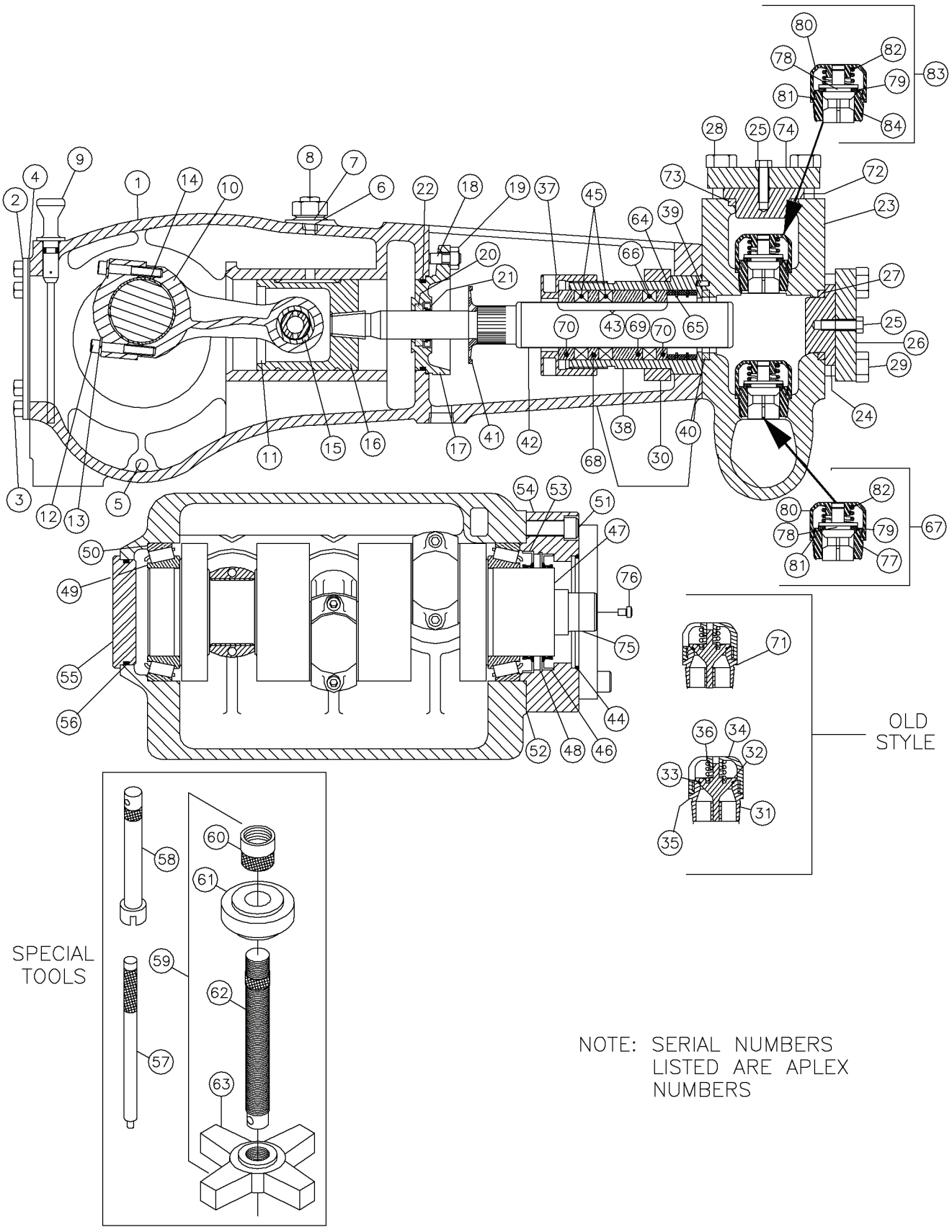
Water Pump Components (Continued) Fig 7-4r04



Water Pump Components (Continued) Fig 7-4r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
31		220741071	VALVE SEAT - HARDENED SS	3	
32		220741073	DOUBLE STEM VALVE - SS	6	
33		220741075	O-RING-POLYURETHANE (SIZE 024)	6	
34		220741077	GUIDE CAGE-STAINLESS STEEL	6	
35		220741079	O-RING NITRILE RUBBER (SIZE 029)	6	
36		220741081	VALVE SPRING - 1 9/16 FREE LGTH	6	
37		220741083	GLAND-PLUNGER	3	
38		220741085	STUFFING BOX-PLUNGER	3	
39		220741087	ROLL PIN - 1/4 X 5/8	3	
40		220741089	SEAL - STUFFING BOX	3	
41		220741091	BAFFLE PLATE - LOW TEMP. RUBBER	3	
42		220741093	PLUNGER - 1 3/4” DIA.	3	
43		224662001	HI/LOW PACKING	3	
44		220741125	O-RING NITRILE	1	
45		224662009	TWO STYLE 141 PACKING	6	
46		220741123	OIL SEAL	1	S/N 0-999
		228098023	OIL SEAL	1	S/N 1000-1050
		228098025	OIL SEAL	1	S/N 1051 -
47		220741107	CRANKSHAFT	1	S/N 0-999, Splined
		241000001	CRANKSHAFT-KEYED	1	S/N 0-999
		228098009	CRANKSHAFT	1	S/N 1000-1050
		228098011	CRANKSHAFT	1	S/N 1051 -
48		220741109	RETAINING RING-SPIRAL	1	S/N 0-1050
		N/R	NOT REQUIRED		S/N 1051 -
49		220741111	BEAR CONE	2	S/N 0-999 Include Cup
		228098013	CONE	2	S/N 1000 -
50		NSS	BEARING UP	2	S/N 0-999
		228098015	CUP	1	S/N 1000 -
51		55419001	SCREW-1/2-13X2 SOCKET HEAD CAP	6	
52		220741113	SHIM SET	1	
53		220741047	OIL SEAL	1	S/N 0-999
		228098021	OIL SEAL	1	S/N 1000-1050
		228098025	OIL SEAL	1	S/N 1051 -
54		220741117	BEARING RETAINER/MOTOR ADAPTER	1	S/N 0-999
		228098017	BEARING RETAINER/MOTOR ADAPTER	1	S/N 1000-1050
		228098019	BEARING RETAINER/MOTOR ADAPTER	1	S/N 1051 -
55		220741119	FRAME PLUG	1	
56		220741121	O-RING	1	
57		224726001	WRENCH-GLAND	1	
58		224727001	WRENCH-CASE	1	
			Contnued On Next Page		

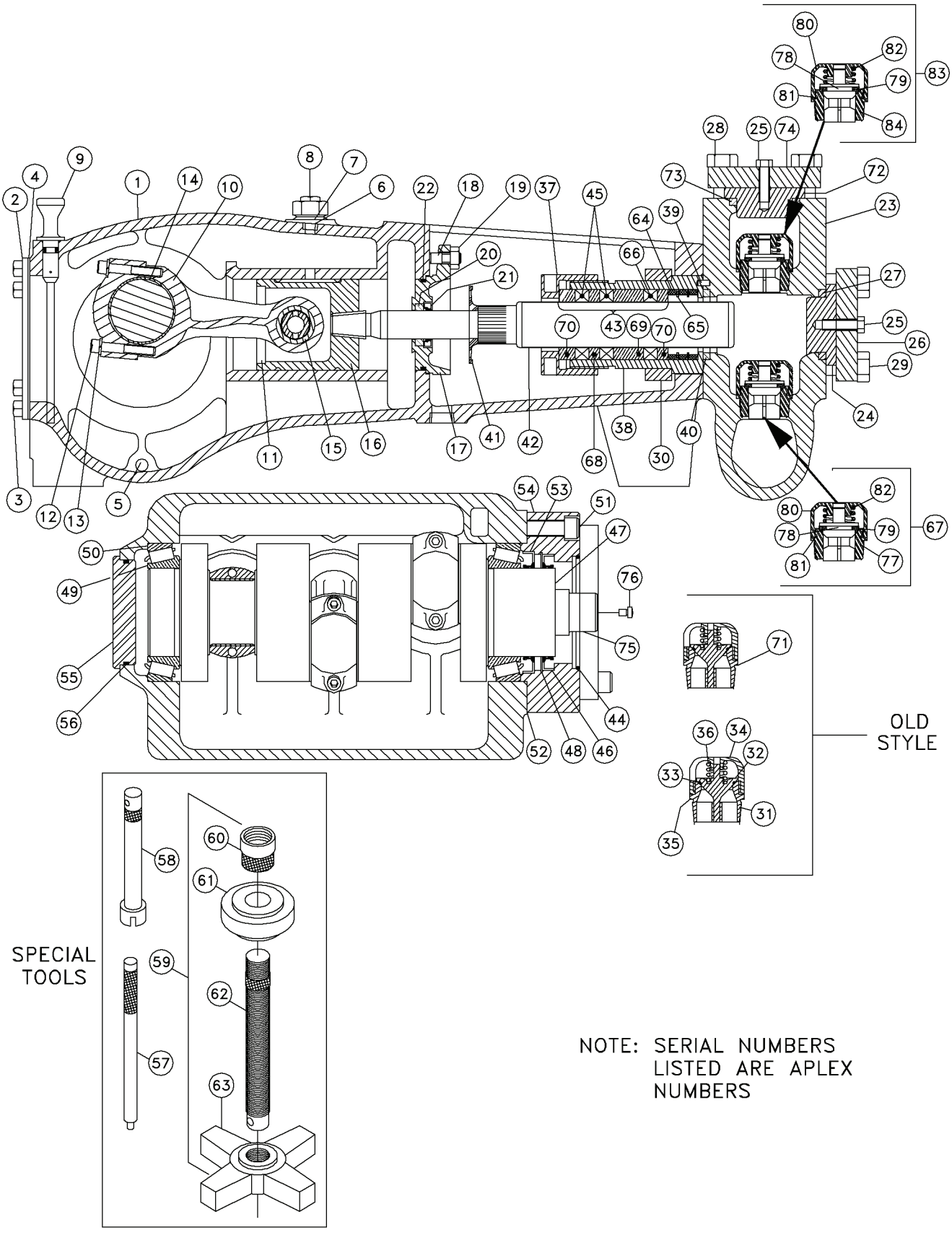
Water Pump Components (Continued) Fig 7-4r04



Water Pump Components (Continued) Fig 7-4r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
59		224894001	SEAT PULLER COMPLETE	1	Inc Ref No's 60-63
60		224890001	PULLER HEAD	1	
61		224891001	BRIDGE	1	
62		224892001	STEM PULLER	1	
63		224893001	WING NUT	1	
64		224952005	ELASTOMER SPRG-2 1/2X2 13/64	9	
65		224952003	SPACER-2 15/32X2-1/16 (ALUM)	6	
66		224662005	STYLE 140 PACKING	3	
67		220741129	VALVE - ASSY - SUCTION	3	Inc Ref No's 77-82
68		224662011	SPACER-BRONZE	3	
69		224662007	SPACER-BRONZE	3	
70		224662003	SPRING ADAPTER-BRONZE	6	
71		220741071	VALVE SEAT-HARDENED SS	3	S/N 0-2999
		248822001	SEAT-VALVE	3	S/N 3000 -
72		220741055	VALVE COVER&CYL HD PLUG 41655	3	S/N 0-2999
		224408109	VALVE COVER AND CYL.HEAD PLUG	3	S/N 3000 -
73		220741061	FLUID SEAL-NITRILE RUBBER	3	S/N 0-2999
		224408131	SEAL-STUFFING BOX (RUBBER)	3	S/N 3000 -
74		220741059	RETAINER PLATE	1	S/N 0-2999
		248823001	RETAINER-VALVE COVER	1	S/N 3000 -
75		228098027	SPLINED COUPLER -SC45 PUMP	1	Inc One Of Ref No 76
76		224904009	SPACER-HARDENED SPLINE ADAPTER	1	
77		220741131	VALVE SEAT - SUCTION	3	
78		220741133	VALVE BODY	6	
79		220741135	INSERT - POLYURETHANE	6	
80		220741137	GUIDE CAGE	6	
81		220741139	O-RING	6	
82		220741141	SPRING - VALVE	6	
83		220741045	POLYPAK RING	3	Inc Ref No's 78-82 & 84
84		220741143	VALVE SEAT - DISCHARGE	3	
	*	224904005	PUMP-WATER		Inc. All Items In Figure Except Special Tools
	*	296253156	SC-45-CRANKSHAFT KIT W/BEARINGS		Inc. Ref 47, 49 50, 75, S/N 1000-1050

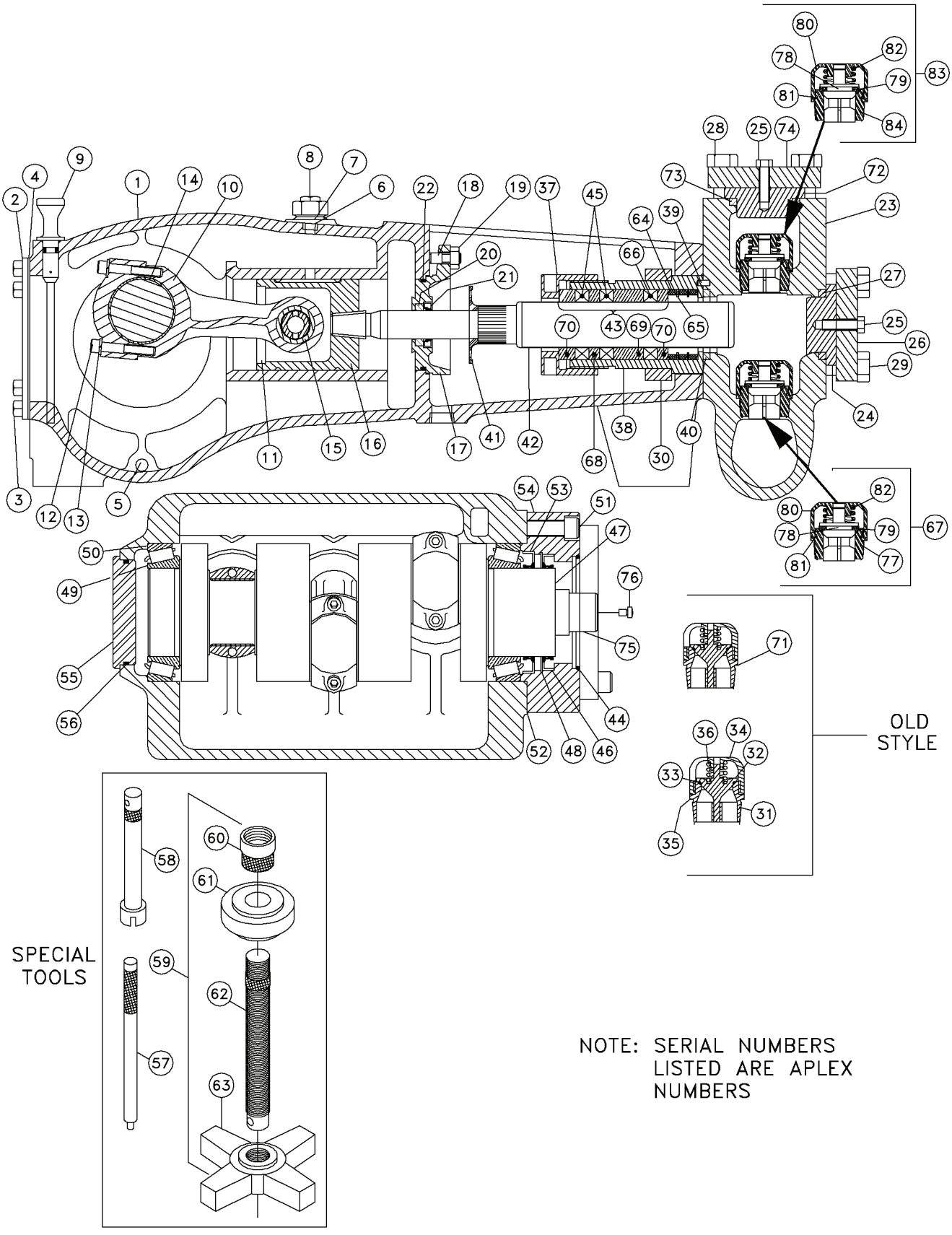
Water Pump Components Fig 7-4r03



Water Pump Components Fig 7-4r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
		NOTE:	SERIAL NUMBERS LISTED ARE APLEX NUMBERS		
1		220741003	POWER FRAME (PUMP W/DIPSTICK)	1	S/N 0-999
		228098005	POWERFRAME	1	S/N 1000 -
2		220741007	CRANKCASE COVER	1	
3		220741009	3/8-16X5/8 HHCS	8	
4		220741011	GASKET-CRANKCASE COVER	1	
5		220741013	1/4” NPT PLUG-SQUARE HEAD	2	
6		220741015	1/8” NPT PLUG-SOCKET HEAD	3	
7		220741017	1/2” NPT PLUG-SOCKET HEAD	1	
8		220741019	BREATHER-CRANKCASE 3/4M NPT	1	
9		220741021	OIL LEVEL DIPSTICK	1	
		220741023	O-RING 2-023	1	
10		220741025	CONNECTING ROD	3	Inc Ref No’s 11-13
11		220741027	WRIST PIN BUSHING	3	
12		220741029	5/16-18X2” SOCKET HD CAP SCREW	6	
13		220741031	5/16” LOCKWASHER	6	
14		220741033	CRANK PIN BEARING HALF	6	2 PCS
15		220741035	WRIST PIN	3	
16		220741037	CROSSHEAD	3	
17		220741039	WIPER BOX	3	
18		220741041	STUD-3/8”-16X1 5/8”	6	
19		220741043	3/18” - 16 HEX NUT	6	
20		220741045	POLYPAK RING	3	
21		220741047	OIL SEAL	3	
22		220741049	O-RING	3	
23		251787001	FLUID END BODY ASSY	1	S/N 0-2999, Inc One Of Ref No 74 & Inc Three Of Ref No’s 71-73
		248821001	BODY-FLUID END	1	S/N 3000 -
		220741053	3/4”-10 X 2 SOCKET HD CAP SCREW	2	
24		220741055	VALVE COVER & CYL HD PLUG	3	
25		220741057	3/8 - 16 X 1 1/4” HHCS	6	
26		220741059	RETAINER PLATE	1	
27		220741061	FLUID SEAL - NITRILE RUBBER	3	
28		220741063	5/8-11 X 3 1/2” HHCS	8	
29		220741065	5/8-11 X 7 1/2” HHCS	8	
30		220741067	STUFFING BOX RETAINER PLATE	3	
		220741069	3/8-16 X 1 1/2” HHCS	6	
			Continued On Next Two Page’s		

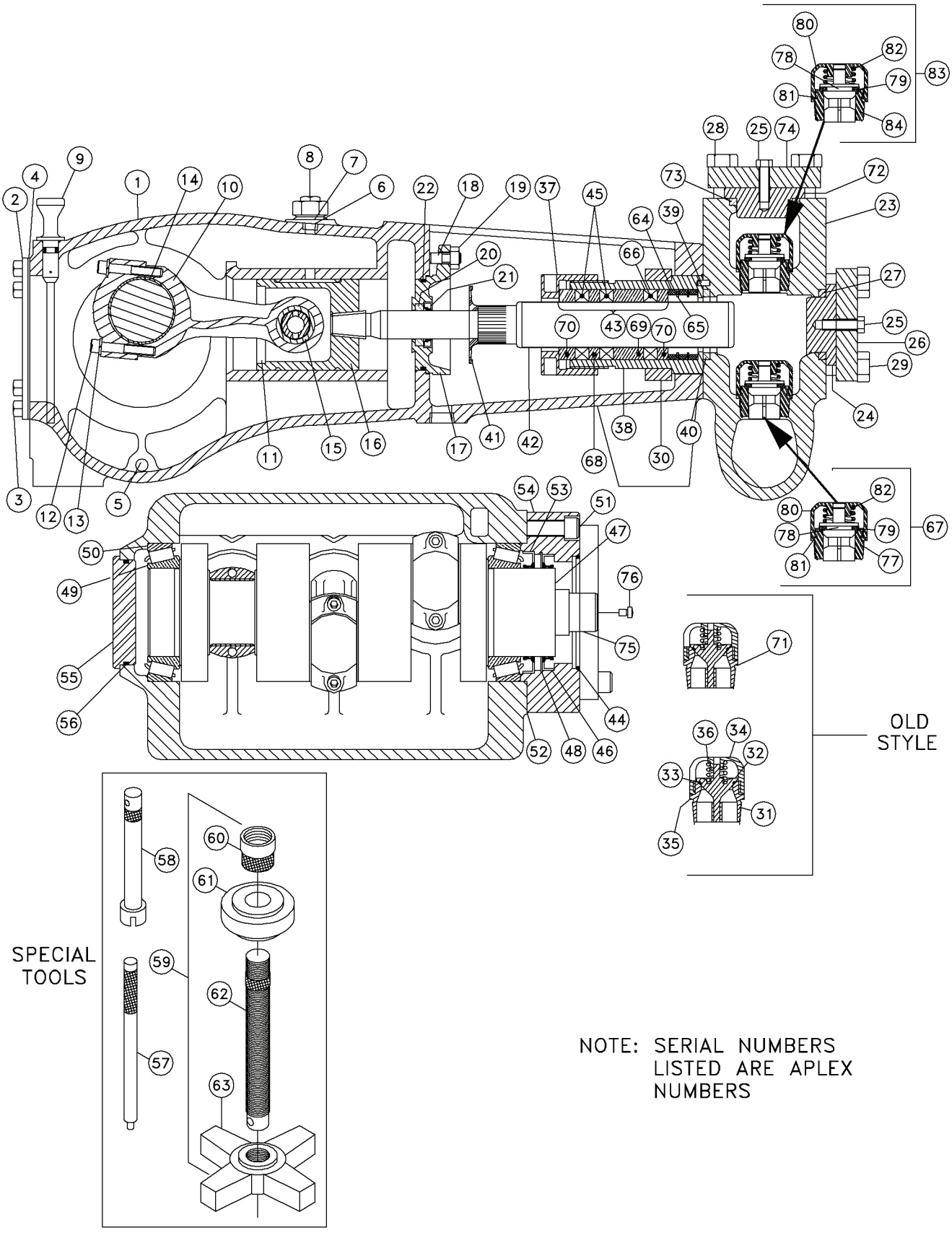
Water Pump Components (Continued) Fig 7-4r03



Water Pump Components (Continued) Fig 7-4r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
31		220741071	VALVE SEAT - HARDENED SS	3	
32		220741073	DOUBLE STEM VALVE - SS	6	
33		220741075	O-RING-POLYURETHANE (SIZE 024)	6	
34		220741077	GUIDE CAGE-STAINLESS STEEL	6	
35		220741079	O-RING NITRILE RUBBER (SIZE 029)	6	
36		220741081	VALVE SPRING - 1 9/16 FREE LGTH	6	
37		220741083	GLAND-PLUNGER	3	
38		220741085	STUFFING BOX-PLUNGER	3	
39		220741087	ROLL PIN - 1/4 X 5/8	3	
40		220741089	SEAL - STUFFING BOX	3	
41		220741091	BAFFLE PLATE - LOW TEMP. RUBBER	3	
42		220741093	PLUNGER - 1 3/4” DIA.	3	
43		224662001	HI/LOW PACKING	3	
44		220741125	O-RING NITRILE	1	
45		224662009	TWO STYLE 141 PACKING	6	
46		220741123	OIL SEAL	1	S/N 0-999
		228098023	OIL SEAL	1	S/N 1000-1050
		228098025	OIL SEAL	1	S/N 1051 -
47		220741107	CRANKSHAFT	1	S/N 0-999, Splined
		241000001	CRANKSHAFT-KEYED	1	S/N 0-999
		228098009	CRANKSHAFT	1	S/N 1000-1050
		228098011	CRANKSHAFT	1	S/N 1051 -
48		220741109	RETAINING RING-SPIRAL	1	S/N 0-1050
		N/R	NOT REQUIRED		S/N 1051 -
49		220741111	BEAR CONE	2	S/N 0-999 Include Cup
		228098013	CONE	2	S/N 1000 -
50		NSS	BEARING UP	2	S/N 0-999
		228098015	CUP	1	S/N 1000 -
51		55419001	SCREW-1/2-13X2 SOCKET HEAD CAP	6	
52		220741113	SHIM SET	1	
53		220741047	OIL SEAL	1	S/N 0-999
		228098021	OIL SEAL	1	S/N 1000-1050
		228098025	OIL SEAL	1	S/N 1051 -
54		220741117	BEARING RETAINER/MOTOR ADAPTER	1	S/N 0-999
		228098017	BEARING RETAINER/MOTOR ADAPTER	1	S/N 1000-1050
		228098019	BEARING RETAINER/MOTOR ADAPTER	1	S/N 1051 -
55		220741119	FRAME PLUG	1	
56		220741121	O-RING	1	
57		224726001	WRENCH-GLAND	1	
58		224727001	WRENCH-CASE	1	
			Contnued On Next Page		

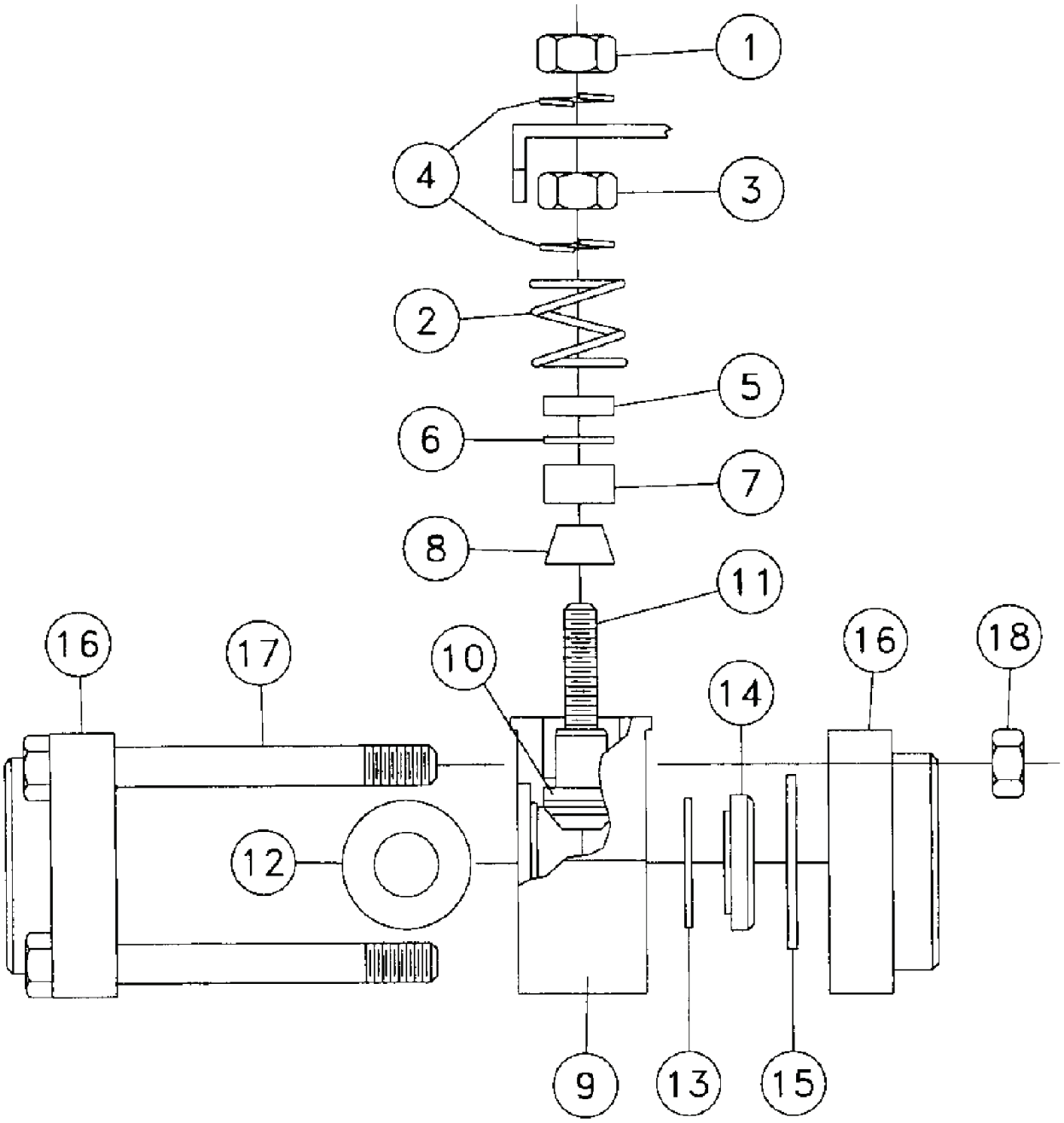
Water Pump Components (Continued) Fig 7-4r03



Water Pump Components (Continued) Fig 7-4r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
59		224894001	SEAT PULLER COMPLETE	1	Inc Ref No's 60-63
60		224890001	PULLER HEAD	1	
61		224891001	BRIDGE	1	
62		224892001	STEM PULLER	1	
63		224893001	WING NUT	1	
64		224952005	ELASTOMER SPRG-2 1/2X2 13/64	9	
65		224952003	SPACER-2 15/32X2-1/16 (ALUM)	6	
66		224662005	STYLE 140 PACKING	3	
67		220741129	VALVE - ASSY - SUCTION	3	Inc Ref No's 77-82
68		224662011	SPACER-BRONZE	3	
69		224662007	SPACER-BRONZE	3	
70	*	224662003	SPRING ADAPTER-BRONZE	6	
71		220741071	VALVE SEAT-HARDENED SS	3	S/N 0-2999
		248822001	SEAT-VALVE	3	S/N 3000 -
72		220741055	VALVE COVER&CYL HD PLUG 41655	3	S/N 0-2999
		224408109	VALVE COVER AND CYL.HEAD PLUG	3	S/N 3000 -
73		220741061	FLUID SEAL-NITRILE RUBBER	3	S/N 0-2999
		224408131	SEAL-STUFFING BOX (RUBBER)	3	S/N 3000 -
74		220741059	RETAINER PLATE	1	S/N 0-2999
		248823001	RETAINER-VALVE COVER	1	S/N 3000 -
75		228098027	SPLINED COUPLER -SC45 PUMP	1	Inc One Of Ref No 76
76		224904009	SPACER-HARDENED SPLINE ADAPTER	1	
77		220741131	VALVE SEAT - SUCTION	3	
78		220741133	VALVE BODY	6	
79		220741135	INSERT - POLYURETHANE	6	
80		220741137	GUIDE CAGE	6	
81		220741139	O-RING	6	
82		220741141	SPRING - VALVE	6	
83		220741045	POLYPAK RING	3	Inc Ref No's 78-82 & 84
84		220741143	VALVE SEAT - DISCHARGE	3	
		224904005	PUMP-WATER		Inc Ref No's 1-56, 64-74

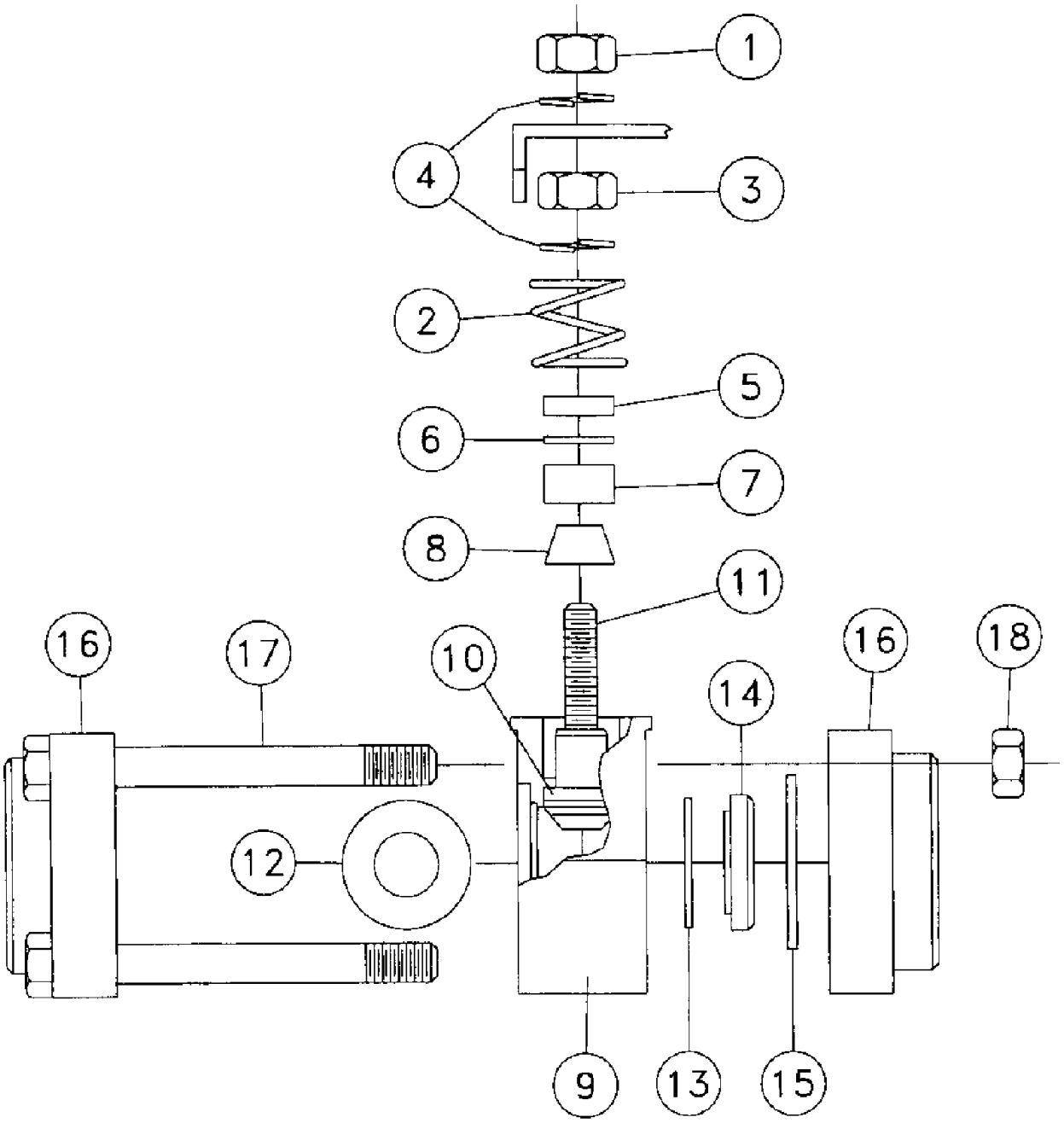
Ball Valve Components - 1" High Pressure Fig 7-5



Ball Valve Components - 1" High Pressure Fig 7-5

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		245079003	STEM NUT	1	
2		245079005	GROUNDING SPRING	1	
3		245079007	STEM NUT	1	
4		245079009	STEM SPRING	2	
5		245079011	GLAND	1	
6		245079013	PACKING SUPPORT	1	
7		245079015	TOP PACKING	1	
8		245079017	BOTTOM PACKING	1	
9		245079019	CENTER BODY	1	
10		245079021	STEM BEARING	2	
11		245079023	STEM	1	
12		245079025	BALL	1	
13		245079027	SUPPORT RING	2	
14		245079029	SEAT/SEAT SPRING	2	
15		245079031	O-RING	2	
16		245079033	FLANGE	2	
17		245079035	BODY STUD	4	
18		245079037	BODY NUT	8	
		245079039	KIT-MAINTENANCE		Inc Ref No’s 4-6, 10 & 16
		245079001	VALVE-1” HIGH PRESS STL BALL		Includes All Items in Figure

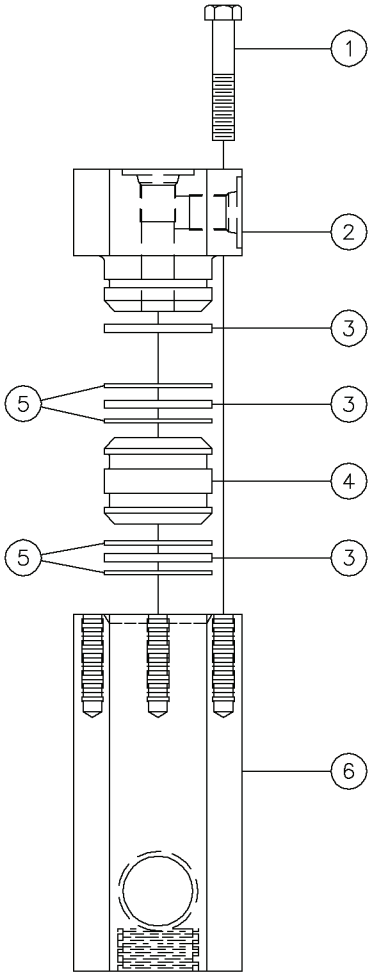
Drill Fluid Fig 7-6



Drill Fluid Fig 7-6

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		904882001	50LBS BAG QUICK GELL BENTONITE	1	
		123596001	BORE-GEL (50 LB BAG)	1	
2		905216001	POLYMER	1	
		123595001	EZ-MUD - 5 GALLON	1	

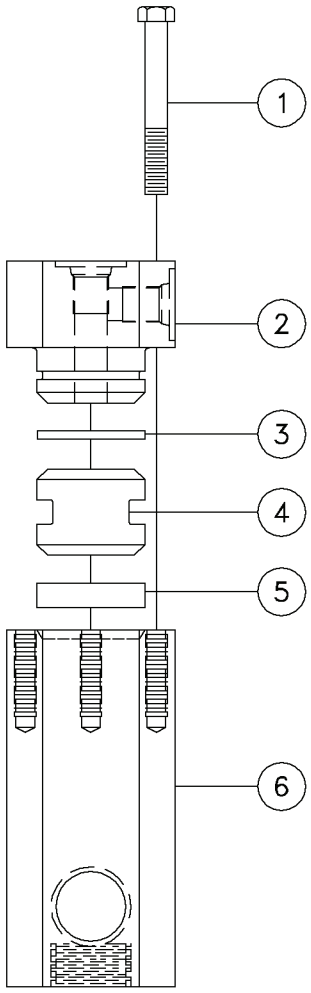
Water Pressure Manifold Components Fig 7-7r02



Water Pressure Manifold Components Fig 7-7r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		250008001	BOLT 1/4-20 X 1 1/4 ZINC PL	6	
2		238138001	ENDCAP-MANIFOLD OUTLET FITTING	1	
3	*	234818001	O-RING 1.254OD X1.114ID-.070	3	
4	*	296256059	PISTON - MANIFOLD, DUAL O-RING, W/ BACKER	1	
5	*	296256060	SEAL - BACKER, 8-024	3	
6		238137001	FITTING-WATER MANIFLD PRESSURE	1	
	*	296256061	MANIFOLD ASSEMBLY - WATER PRESSURE		Includes All Items In Figure

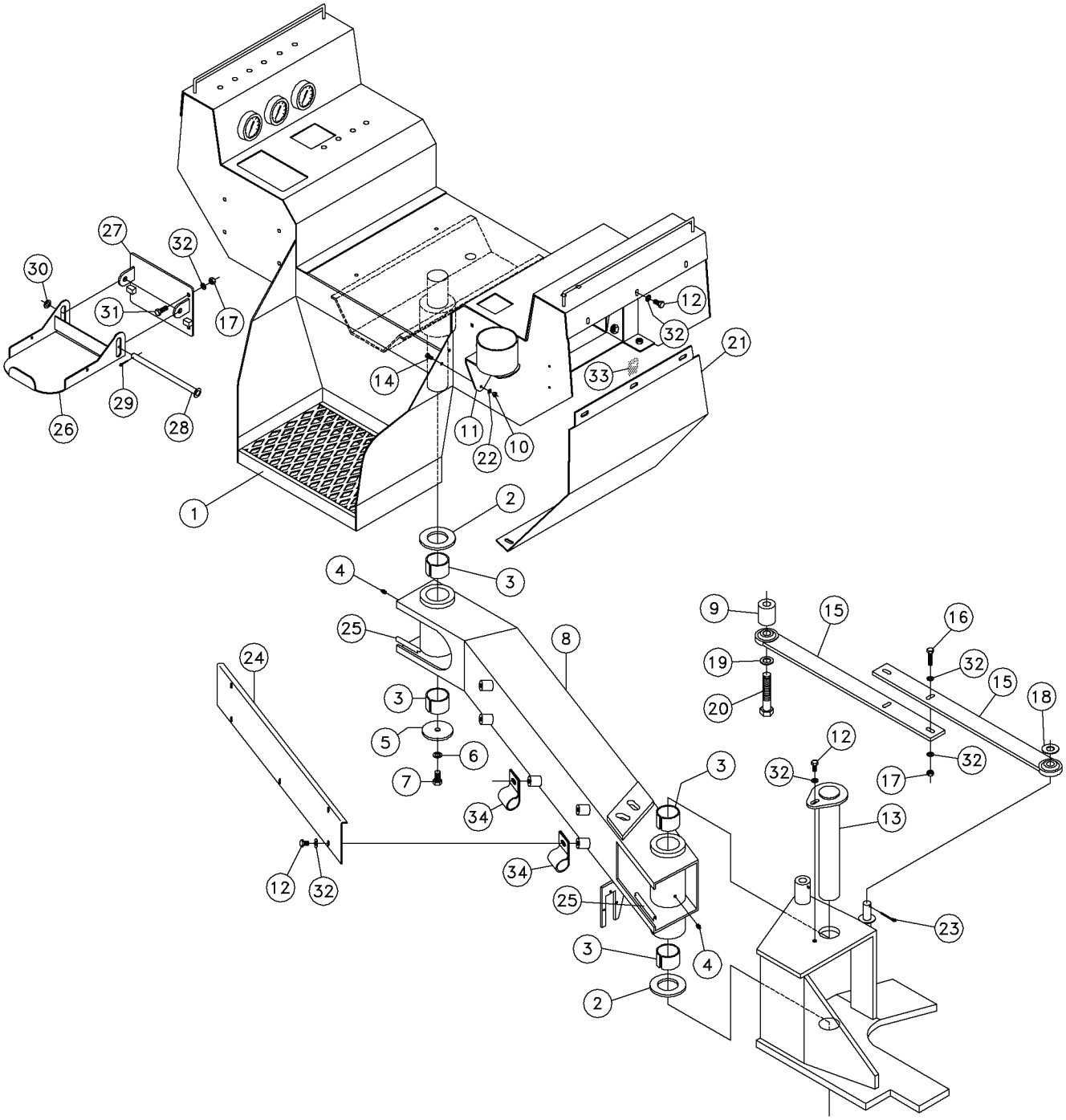
Water Pressure Manifold Components Fig 7-7r01



Water Pressure Manifold Components Fig 7-7r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1	*	250008001	BOLT 1/4-20 X 1 1/4 ZINC PL	6	
2		238138001	ENDCAP-MANIFOLD OUTLET FITTING	1	
3		234818001	O-RING 1.254OD X1.114ID-.070	1	
4		238139001	PISTON INSERT - MANIFOLD	1	
5		250612001	O-RING - 316	1	
6		238137001	FITTING-WATER MANIFLD PRESSURE	1	
		250611001	WATER PRESSURE MANIFOLD ASS'Y		Includes All Items In Figure

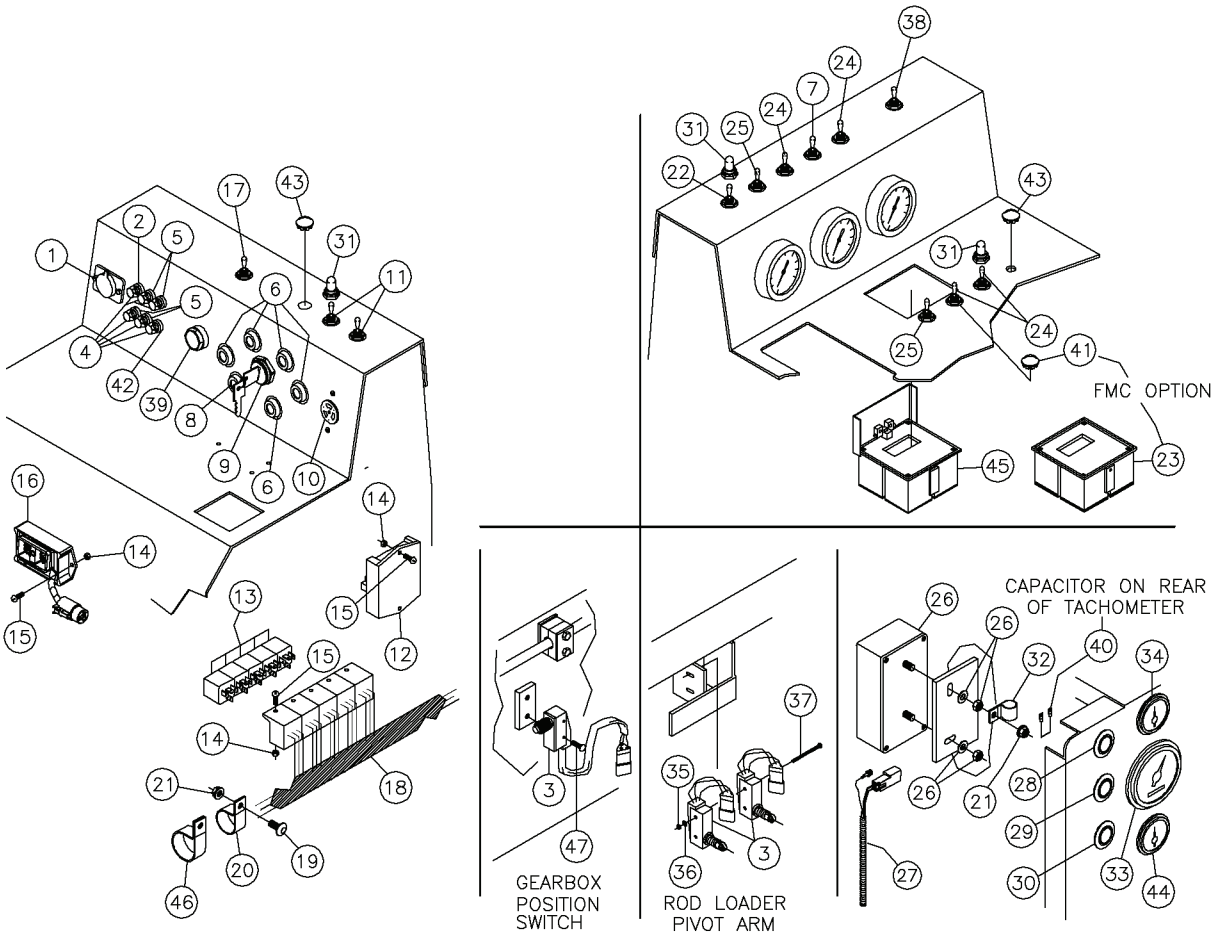
Control Console Assy Fig 8-1r04



Control Console Assy Fig 8-1r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Parts List
1		236414001	CONSOLE-CONTROL	1	S/N 101-1548, 1550-1610
	*	287576001	CONSOLE - CONTROL	1	S/N 1549, 1611 -
2		215200001	WASHER-THRUST	2	
3		85790003	BUSHING-SPRING 2 1/4 X 2 X 1 1/2	4	
4		598001	ZERK-1/4” NF ST GREASE	2	
5		53276001	WASHER-JACKSHAFT END	1	
6		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	
7		235729001	BOLT-1/2-13 X 1 GR8 HEX ZINC PLT	1	
8		235934003	ARM ASSEMBLY-SEAT SWING	1	Inc Two Of Ref No 4 & Inc Four Of Ref No 3
9		1084019	TUBE-1 1/4” OD X 3/4” ID-2”	1	
10		235732001	NUT-1/4-20 GR8 ZINC PLTD	2	
11		236397001	HOLDLER-CUP/RADIO	1	
12		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	16	
13		228354001	PIN-PIVOT	1	
14		235733001	BOLT-1/4-20 X 1/2 GR8 ZINC PLTD	2	
15		228351001	BAR-LINKAGE	2	
16		235723001	BOLT-3/8-16 X 1 1/2 GR8 ZINC PLT	2	
17		235725001	NUT-3/8-16 GR8 ZINC PLTD	4	
18		485017	WASHER-3/4 FLAT	1	
19		235717001	WASHER-3/4 SAE HARD ZINC PLTD	1	
20		235738001	BOLT 3/4”-10 X 4 1/2” GR8 HEX Y/Z	1	
21		228333001	COVER-CONSOLE	2	
22		235716001	WASHER-1/4 SAE HARD ZINC PLTD	2	
23		510011	COTTER PIN-1/8” X 1 1/2”	1	
24		228176001	COVER-HOSE	1	
25		212522001	TRIM-1/4 EDGE	A/R	P/N Qty Of 1 = 1 Foot
26		240020001	SHELF-GREASE BUCKET	1	
27		240094001	MOUNT-GREASE BUCKET SHELF	1	
28		240033001	PIN-GREASE BUCKET SHELF	1	
29		510005	COTTER PIN-3/32” X 3/4”	1	
30		485011	WASHER-1/2 FLAT	1	
31		235727001	BOLT-3/8-16 X 1 GR8 HEX ZINC PLT	2	
32		235713001	WASHER-3/8 SAE HARD ZINC PLTD	22	
33		13323001	U-CLIP 3/8-16	10	
34		2595001	CLAMP-1 1/4 HOSE	2	

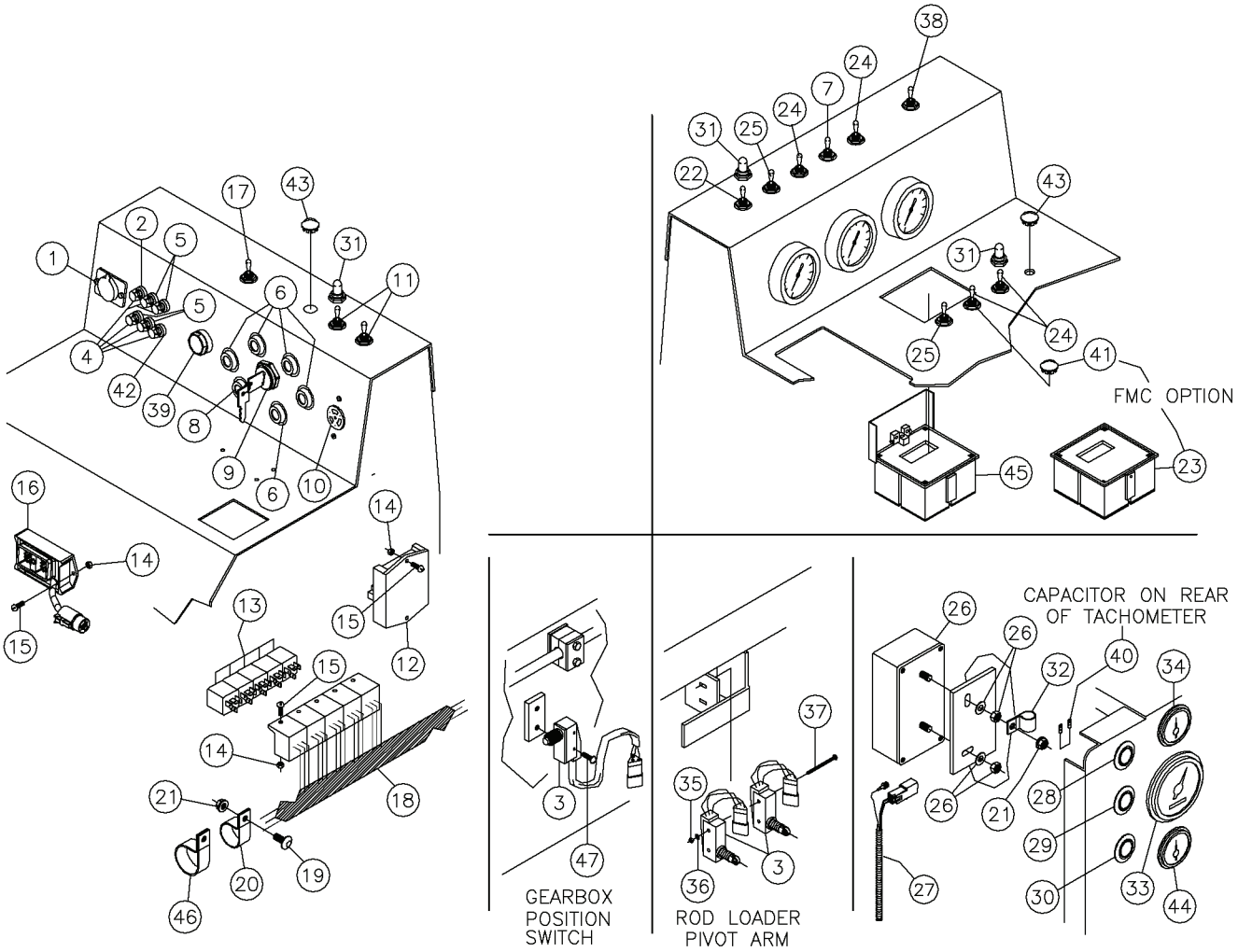
Control Panel Assy (S/N 1549, 1611 -) Fig 8-2r10



Control Panel Assy (S/N 1549, 1611 -) Fig 8-2r10

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		236473001	OUTLET-12V STAINLESS	1	
		57200001	SCREW-#8-32 X 1/2 RND HD MACH.	2	
		69759001	LOCK NUT-#8-32 NYLON INSERT PL	2	
2		72079001	BREAKER-45-700-514-DD 5 AMP	1	
3		251695001	SWITCH-LIMIT SEALED W/3 PIN DEUTSCH	3	
4		89597001	COVER-BREAKER SWITCH	6	
5		72081001	BREAKER 45-700-514-DD 15 AMP	4	
6		27148001	LIGHT-RED WARNING	5	
		70889001	BULB-#112-1418	6	
7		236411001	SWITCH-SPDT ON-OFF-ON	1	
8		81374001	LIGHT-GREEN WARNING	1	
9		63579001	SWITCH-1219 GENERAL	1	S/N 101-1775
		229801001	SWITCH-IGNITION (4 TERMINAL)	1	S/N 1776-
		229802001	KEY-IGNITION SWITCH (SET OF 2)	1	S/N 1776-
10		904346001	BUZZER	1	
		905001001	BOLT-8-32 X 2 STOVE	2	
		904995001	WASHER-8 INTERNAL STAR	2	
11		67081001	SWITCH-8510K4 CUTLER HAMMER	2	
12		231248001	RELAY-LOW VOLTAGE SENSING	1	
13		251681001	RELAY - SEALED 40 AMP	5	
14		400001	NUT-3/16 NC HEX	7	
15		1802006	BOLT-10-24 X 3/4 RND HD STOVE	7	
16		281526001	POWER DISTRIBUTION MODULE	1	
17		67293001	SWITCH-TOGGLE 8511K14 SEALED	1	
18		277057001	HARNESS-OPERATOR STATION WIRE	1	S/N 101-1911
		287680001	HARNESS - OPERATOR STATION WIRE	1	S/N 1912
19		374006	BOLT-5/16”-18 X 3/4 GD 5 CARRIAGE	3	
			Continued On The Following Page		

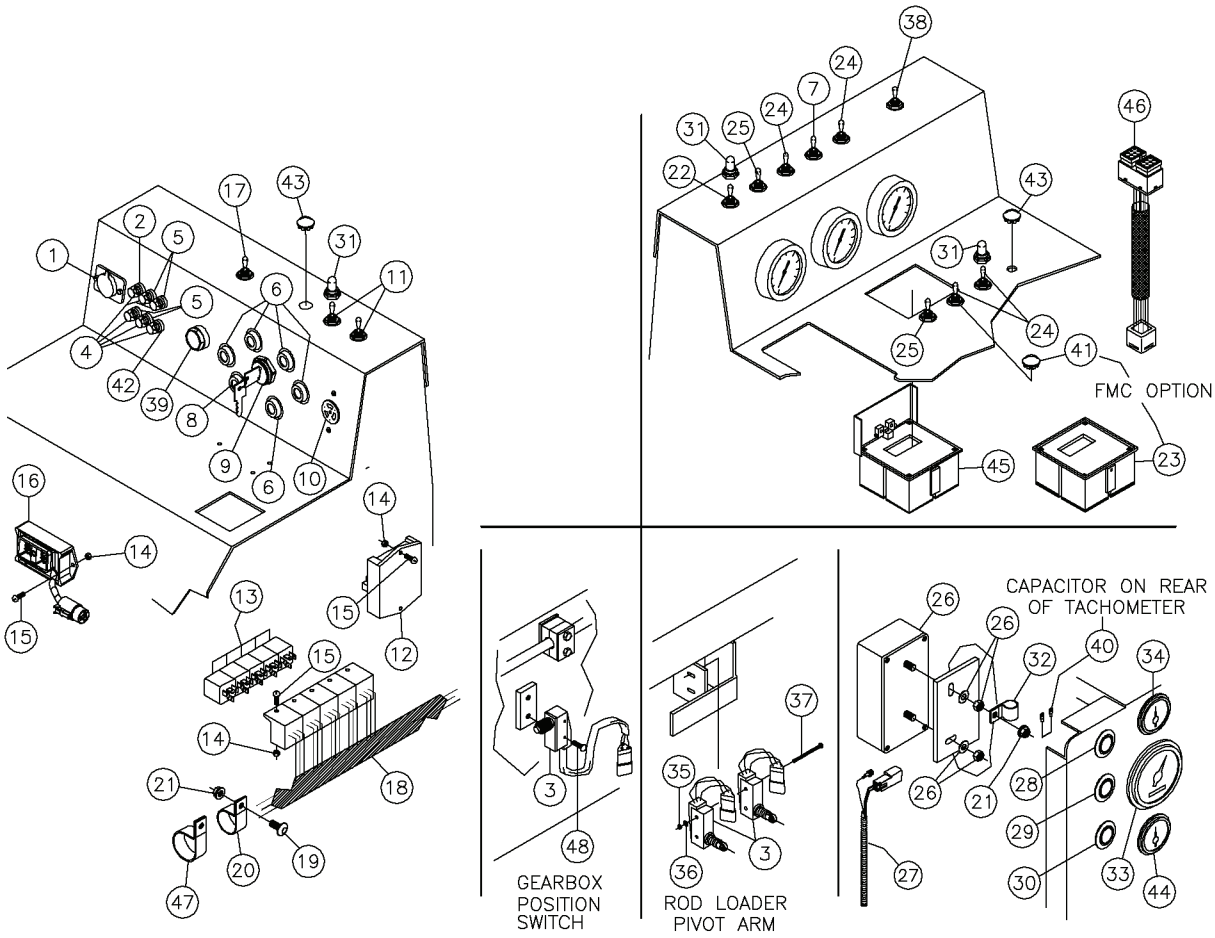
Control Panel Assy (S/N 1549, 1611 -) (Continued) Fig 8-2r10



Control Panel Assy (S/N 1549, 1611 -) (Continued) Fig 8-2r10

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration & Parts List.
20	*	2595009	CLAMP-1 1/4 HOSE	3	
21	*	408001	NUT-5/16 NC FLG WHIZ LOCK	4	
22		78105001	SWITCH	1	
23	*	287529001	FLOWMETER-28 GPM (FMC)	1	
24		67292001	SWITCH-TOGGLE 8500K9 SEALED	4	
25		86580001	SWITCH-DPST ON-ON	2	
26		281523001	ZAP ALERT - CURRENT SENSE	1	
27		282518001	COIL-ZAP ALERT	1	
28		277695001	SWITCH-PUSH BUTTON ZAP ALERT RESET	1	
29		277696001	SWITCH-PUSH BUTTON ZAP ALERT TEST VOLTAGE TEST	1	
30		277697001	SWITCH-PUSH BUTTON ZAP ALERT CURRENT TEST	1	
31		5537001	COVER-TOGGLE SWITCH	1	
32		2595007	HOSE CLAMP - TS7J 3/4”	1	
33		201785001	TACH/HOURMETER	1	
34		201793001	GAUGE-WATER TEMP	1	
35		69757001	LOCKNUT-#6-32 NYLON INSERT PLT	2	
36		57337001	WASHER-#6 FLAT	2	
37		250671001	BOLT-6-32 UNC X 2” STOVE	2	
38		86579001	SWITCH-4 POLE ON-ON-ON	1	
39		245090001	SWITCH-PUSH BUTTON	1	
40		244949010	CAPACITOR	1	
41		79942001	PLUG-15/32 BUTTON #D2724 DULL BLACK	1	FMC Water Pump Option
42		78107001	BREAKER-CIRCUIT 10 AMP	1	
43		79942001	PLUG-15/32 BUTTON #D2724	2	
44		201786001	GAUGE-FUEL DATCON 810EM	1	
45		296262032	MODULE - M1114 WATER CONTROL	1	
46		204721001	HOSE CLAMP-CCV2913 1 3/4”	1	
47		27163001	BOLT-6-32NCX1	2	

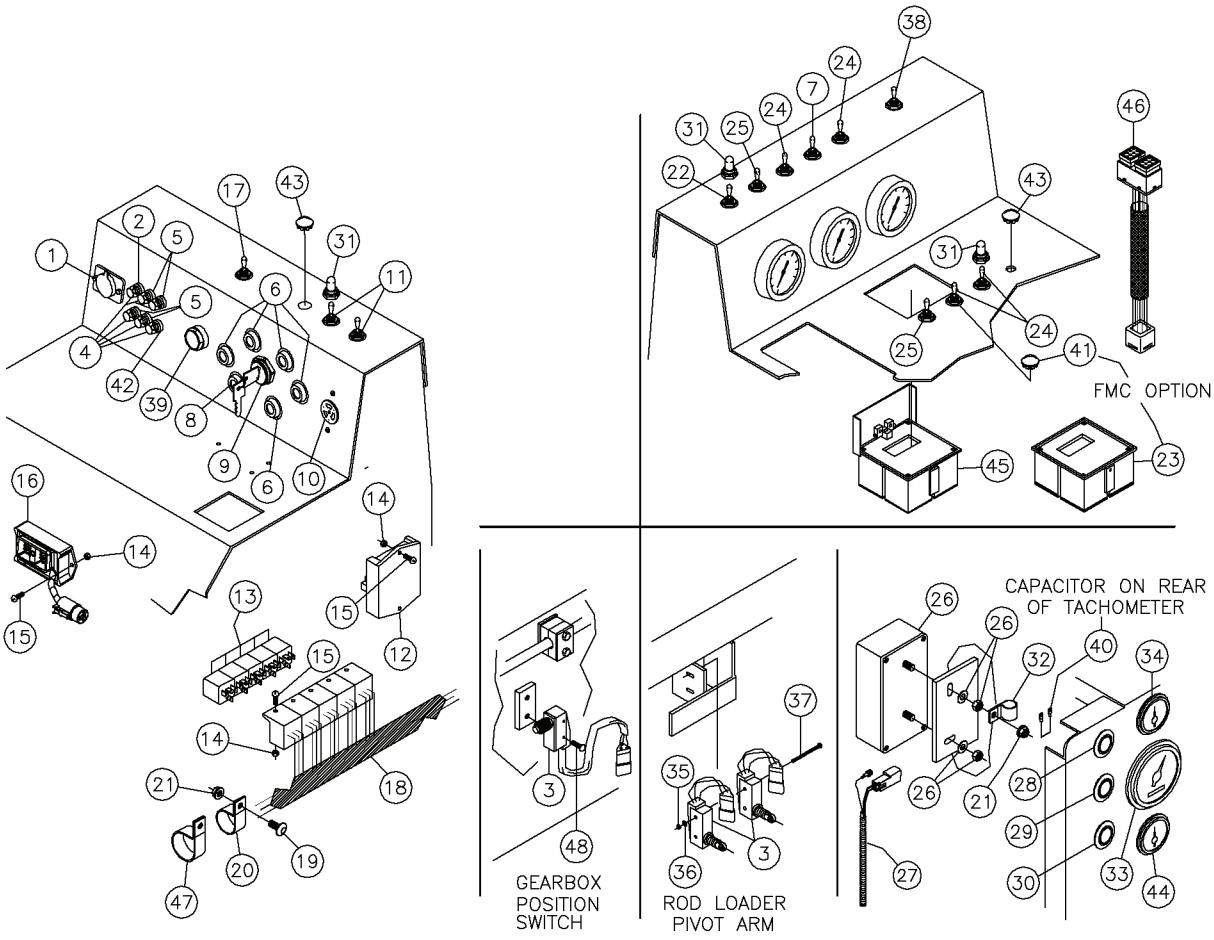
Control Panel Assy (S/N 1549, 1611 -) Fig 8-2r09



Control Panel Assy (S/N 1549, 1611 -) Fig 8-2r09

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		236473001	OUTLET-12V STAINLESS	1	
		57200001	SCREW-#8-32 X 1/2 RND HD MACH.	2	
		69759001	LOCK NUT-#8-32 NYLON INSERT PL	2	
2		72079001	BREAKER-45-700-514-DD 5 AMP	1	
3	*	251695001	SWITCH-LIMIT SEALED W/3 PIN DEUTSCH	3	
4		89597001	COVER-BREAKER SWITCH	6	
5		72081001	BREAKER 45-700-514-DD 15 AMP	4	
6		27148001	LIGHT-RED WARNING	5	
		70889001	BULB-#112-1418	6	
7		236411001	SWITCH-SPDT ON-OFF-ON	1	
8		81374001	LIGHT-GREEN WARNING	1	
9	*	63579001	SWITCH-1219 GENERAL	1	S/N 101-1775
	*	229801001	SWITCH-IGNITION (4 TERMINAL)	1	S/N 1776-
	*	229802001	KEY-IGNITION SWITCH (SET OF 2)	1	S/N 1776-
10		904346001	BUZZER	1	
		905001001	BOLT-8-32 X 2 STOVE	2	
		904995001	WASHER-8 INTERNAL STAR	2	
11		67081001	SWITCH-8510K4 CUTLER HAMMER	2	
12		231248001	RELAY-LOW VOLTAGE SENSING	1	
13	*	251681001	RELAY - SEALED 40 AMP	5	
14		400001	NUT-3/16 NC HEX	7	
15		1802006	BOLT-10-24 X 3/4 RND HD STOVE	7	
16		281526001	POWER DISTRIBUTION MODULE	1	
17		67293001	SWITCH-TOGGLE 8511K14 SEALED	1	
18	*	277057001	HARNESS-OPERATOR STATION WIRE	1	S/N 101-1911
	*	287680001	HARNESS - OPERATOR STATION WIRE	1	S/N 1912
19	*	374006	BOLT-5/16”-18 X 3/4 GD 5 CARRIAGE	3	
			Continued On The Following Page		

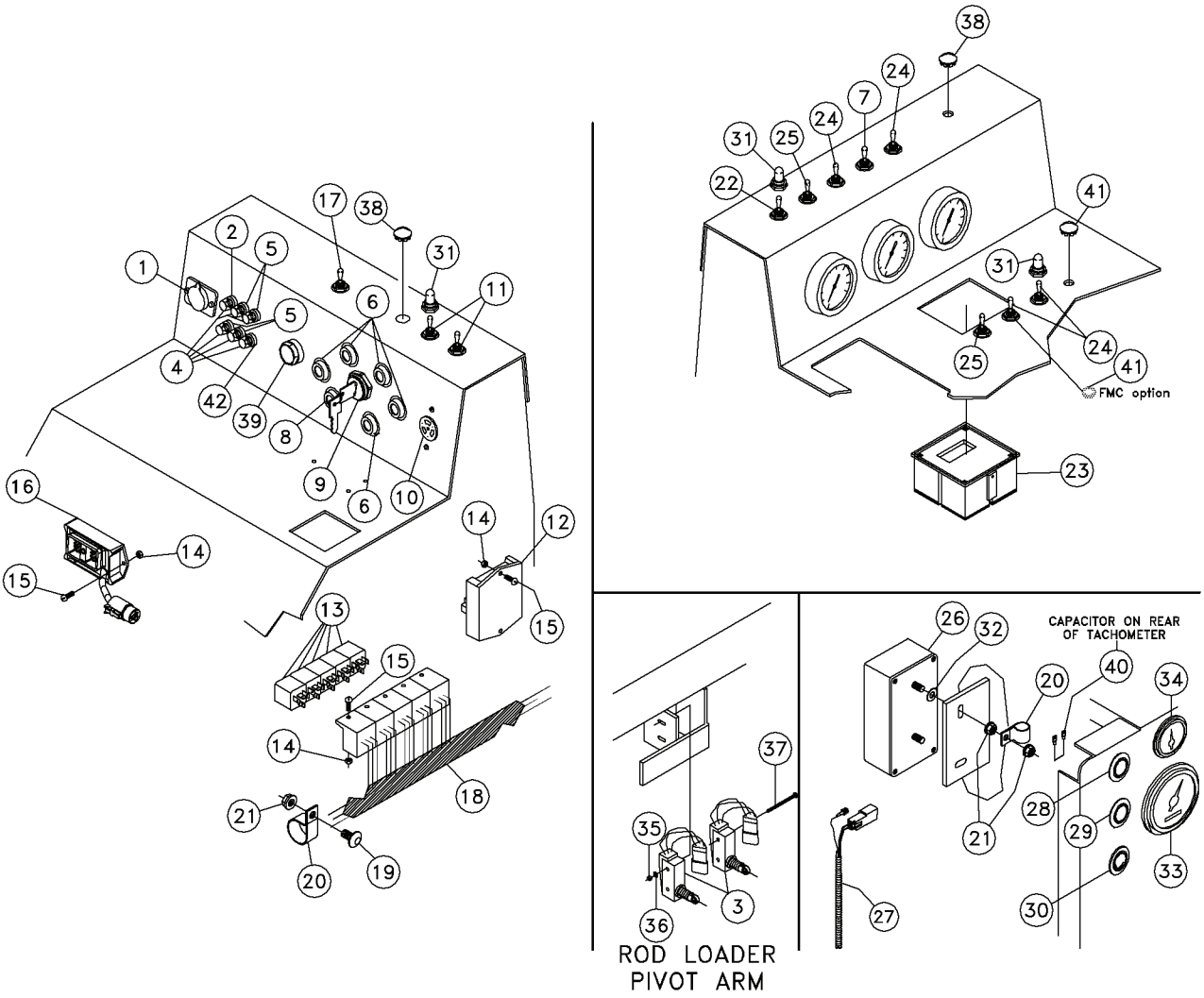
Control Panel Assy (S/N 1549, 1611 -) (Continued) Fig 8-2r09



Control Panel Assy (S/N 1549, 1611 -) (Continued) Fig 8-2r09

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
20	*	2595009	CLAMP-1 1/4 HOSE	3	
21	*	408001	NUT-5/16 NC FLG WHIZ LOCK	4	
22		78105001	SWITCH	1	
23	*	287529001	FLOWMETER-28 GPM (FMC)	1	
24		67292001	SWITCH-TOGGLE 8500K9 SEALED	4	
25		86580001	SWITCH-DPST ON-ON	2	
26	*	281523001	ZAP ALERT - CURRENT SENSE	1	
27		282518001	COIL-ZAP ALERT	1	
28		277695001	SWITCH-PUSH BUTTON ZAP ALERT RESET	1	
29		277696001	SWITCH-PUSH BUTTON ZAP ALERT TEST VOLTAGE TEST	1	
30		277697001	SWITCH-PUSH BUTTON ZAP ALERT CURRENT TEST	1	
31		5537001	COVER-TOGGLE SWITCH	1	
32	*	2595007	HOSE CLAMP - TS7J 3/4”	1	
33		201785001	TACH/HOURMETER	1	
34		201793001	GAUGE-WATER TEMP	1	
35		69757001	LOCKNUT-#6-32 NYLON INSERT PLT	2	
36		57337001	WASHER-#6 FLAT	2	
37		250671001	BOLT-6-32 UNC X 2” STOVE	2	
38		86579001	SWITCH-4 POLE ON-ON-ON	1	
39		245090001	SWITCH-PUSH BUTTON	1	
40		244949010	CAPACITOR	1	
41	*	79942001	PLUG-15/32 BUTTON #D2724 DULL BLACK	1	FMC Water Pump Option
42		78107001	BREAKER-CIRCUIT 10 AMP	1	
43	*	79942001	PLUG-15/32 BUTTON #D2724	2	
44	*	201786001	GAUGE-FUEL DATCON 810EM	1	
45	*	283607001	WATER CONTROL MODULE (38GPM-APLEX)	1	
46	*	296260265	HARNESS - REMOTE LOCKOUT JUMPER	1	
47	*	204721001	HOSE CLAMP-CCV2913 1 3/4”	1	
48	*	27163001	BOLT-6-32NCX1	2	

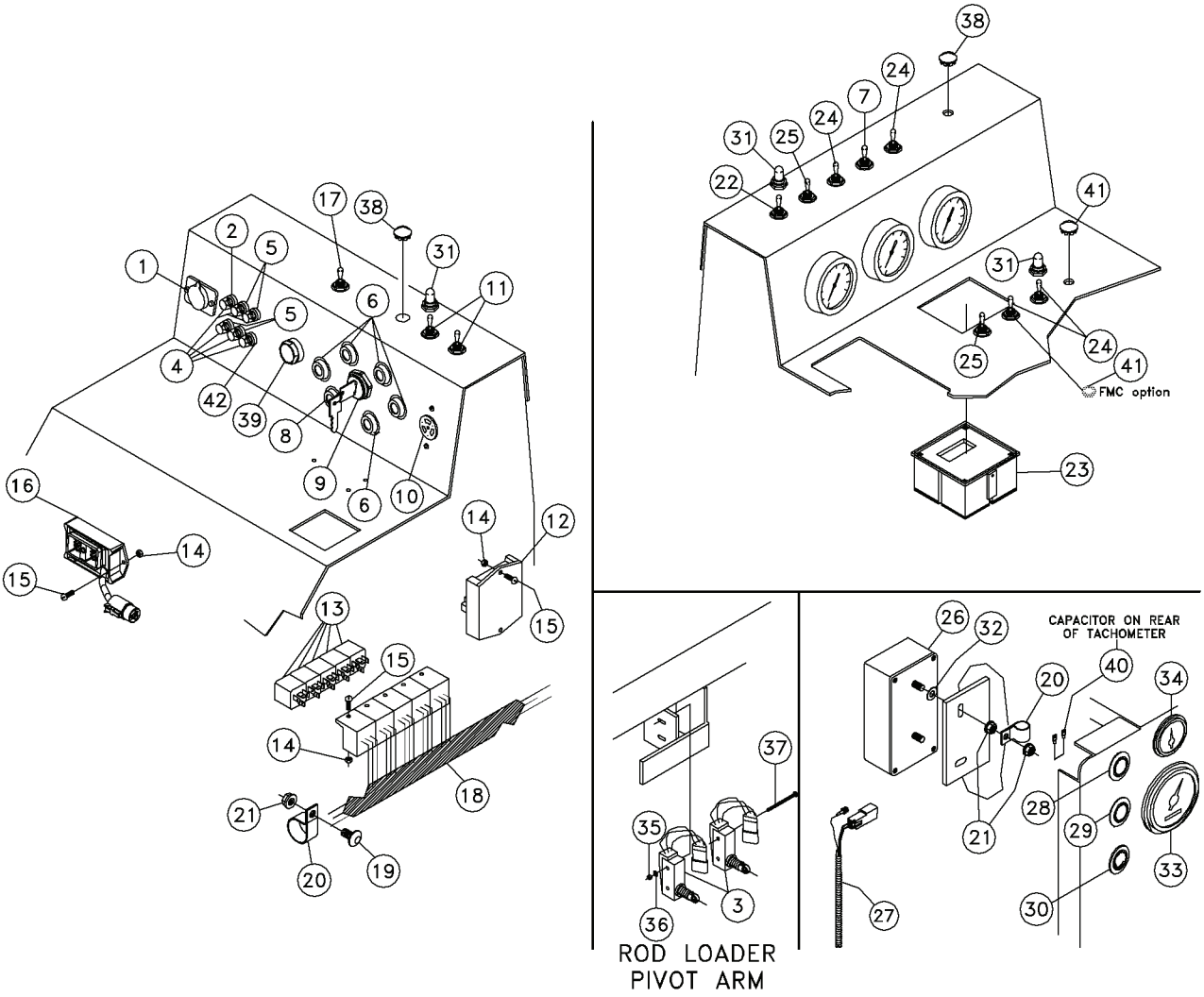
Control Panel Assy (S/N 1549, 1611 -) Fig 8-2r08



Control Panel Assy (S/N 1549, 1611 -) Fig 8-2r08

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Parts List.
1		236473001	OUTLET-12V STAINLESS	1	
		57200001	SCREW-#8-32 X 1/2 RND HD MACH.	2	
		69759001	LOCK NUT-#8-32 NYLON INSERT PL	2	
2		72079001	BREAKER-45-700-514-DD 5 AMP	1	
3		251695001	SWITCH-LIMIT SEALED W/3 PIN DEUTSCH	2	
4		89597001	COVER-BREAKER SWITCH	6	
5		72081001	BREAKER 45-700-514-DD 15 AMP	4	
6		27148001	LIGHT-RED WARNING	5	
		70889001	BULB-#112-1418	6	
7		236411001	SWITCH-SPDT ON-OFF-ON	1	
8		81374001	LIGHT-GREEN WARNING	1	
9		63579001	SWITCH-1219 GENERAL	1	
10		904346001	BUZZER	1	
		905001001	BOLT-8-32 X 2 STOVE	2	
		904995001	WASHER-8 INTERNAL STAR	2	
11		67081001	SWITCH-8510K4 CUTLER HAMMER	2	
12		231248001	RELAY-LOW VOLTAGE SENSING	1	
13		219137001	RELAY-BOSCH NO/NC 20/30 AMP	5	
14		400001	NUT-3/16 NC HEX	7	
15		1802006	BOLT-10-24 X 3/4 RND HD STOVE	7	
16		281526001	POWER DISTRIBUTION MODULE	1	
17		67293001	SWITCH-TOGGLE 8511K14 SEALED	1	
18	*	277057001	HARNESS-OPERATOR STATION WIRE	1	
19		374006	BOLT-5/16”-18 X 3/4 GD 5 CARRIAGE	4	
			Continued On The Following Page		

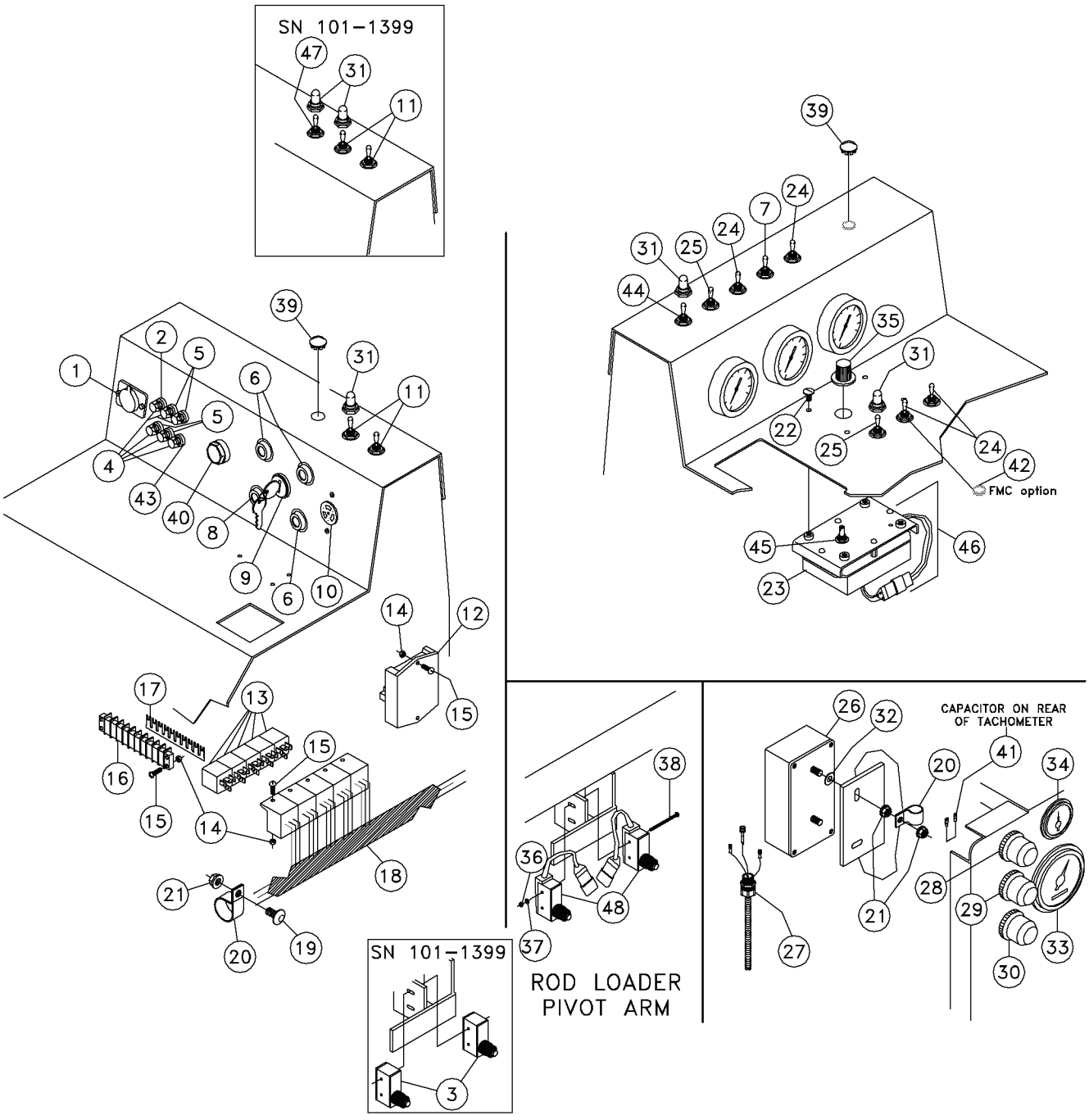
Control Panel Assy (S/N 1549, 1611 -) (Continued) Fig 8-2r08



Control Panel Assy (S/N 1549, 1611 -) (Continued) Fig 8-2r08

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
20		2595009	CLAMP-1 1/4 HOSE	5	
21		408001	NUT-5/16 NC FLG WHIZ LOCK	6	
22		78105001	SWITCH	1	
23		287528001	FLOWMETER-38 GPM (APLEX)	1	
		287529001	FLOWMETER-28 GPM (FMC)	1	
24		67292001	SWITCH-TOGGLE 8500K9 SEALED	4	
25		86580001	SWITCH-DPST ON-ON	2	
26		28152301	ZAP ALERT-CURRENT SENSE	1	
27		282518001	COIL-ZAP ALERT	1	
28		277695001	SWITCH-PUSH BUTTON ZAP ALERT RESET	1	
29		277696001	SWITCH-PUSH BUTTON ZAP ALERT TEST VOLTAGE TEST	1	
30		277697001	SWITCH-PUSH BUTTON ZAP ALERT CURRENT TEST	1	
31		5537001	COVER-TOGGLE SWITCH	1	
32		485005	WASHER-5/16 FLAT	2	
33		201785001	TACH/HOURMETER	1	
34		201793001	GAUGE-WATER TEMP	1	
35		69757001	LOCKNUT-#6-32 NYLON INSERT PLT	2	
36		57337001	WASHER-#6 FLAT	2	
37		250671001	BOLT-6-32 UNC X 2” STOVE	2	
38		86579001	SWITCH-4 POLE ON-ON-ON	1	
39		245090001	SWITCH-PUSH BUTTON	1	
40		244949010	CAPACITOR	1	
41		67263001	PLUG-4M	1	
42		78107001	BREAKER-CIRCUIT 10 AMP	1	
43		79942001	PLUG-15/32 BUTTON #D2724	1	

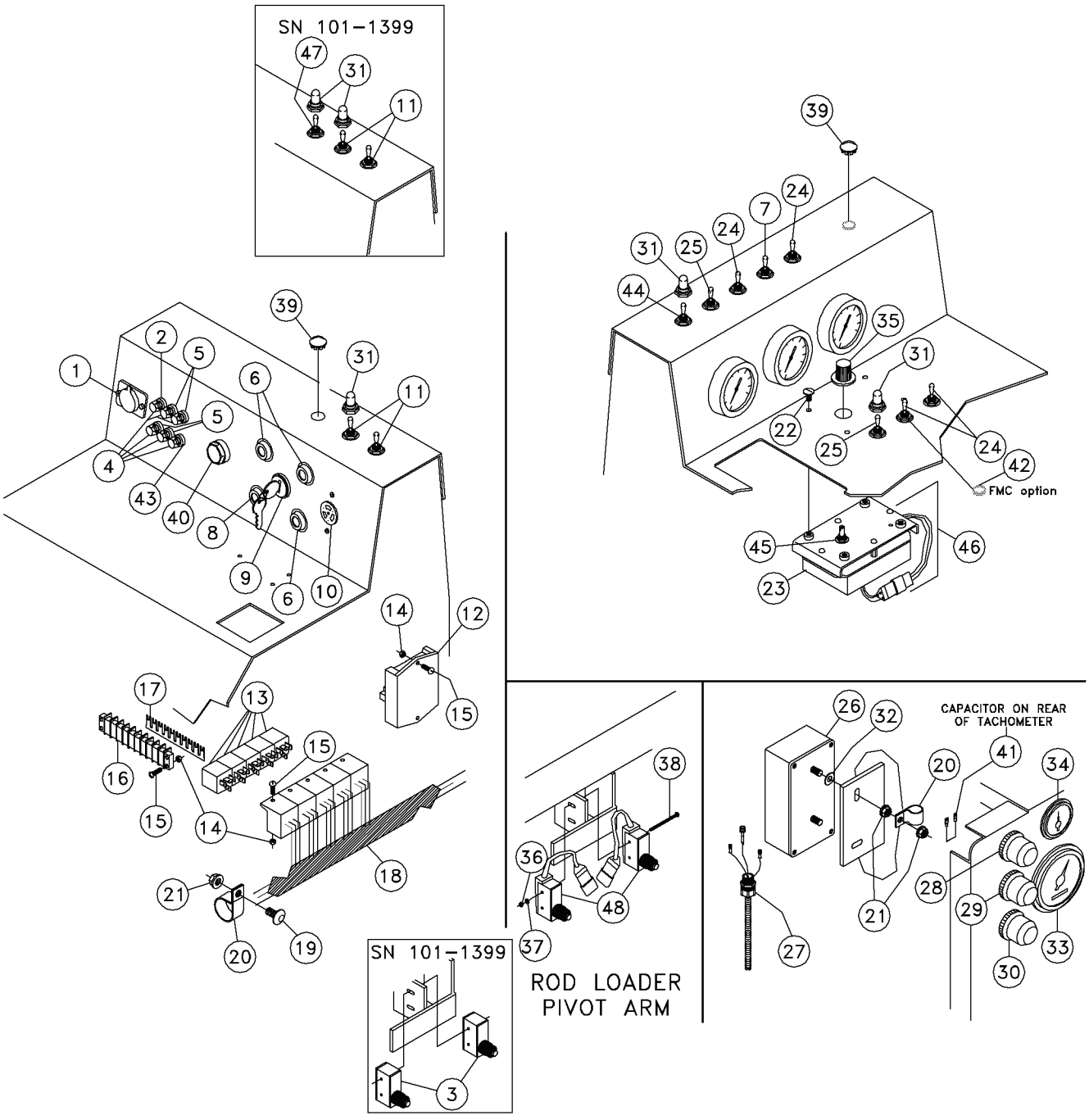
Control Panel Assy (S/N 101-1548, 1550-1610) Fig 8-2r06



Control Panel Assy (S/N 101-1548, 1550-1610) Fig 8-2r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Parts List
1		236473001	OUTLET-12 V STAINLESS	1	
		57200001	SCREW-#8-32 X 1/2 RND. HD. MACH.	2	
		69759001	LOCK NUT-#8-32 NYLON INSERT PL	2	
2		72079001	BREAKER-5 AMP	1	
3		219154001	SWITCH-15A SCWT .047”PT WTRPRF	2	S/N 101-1399
4		89597001	COVER-BREAKER SWITCH	6	
5		72081001	BREAKER-15A	4	
6		27148001	LIGHT-RED WARNING	3	
		70889001	BULB. #112-1418	4	
7		236411001	SWITCHSPDT ON-OFF-ON (ITL1-5)	1	
8		81374001	LIGHT-GREEN WARNING	1	
9		63579001	SWITCH-1219 GENERAL	1	
		66462001	KEY-NG- 100/1219 GENERAL	1	
10		904346001	BUZZER	1	
		905001001	BOLT-8-32 X 2 STOVE	2	
		904995001	WASHER-8 INTERNAL STAR	2	
		399001	NUT-8-32 HEX	2	
11		67081001	SWITCH-8510K4 CUTLER HAMMER	2	
12		231248001	RELAY-LOW VOLTAGE SENSING	1	
13		219137001	RELAY-BOSCH NO/NC 20/30 AMP	5	
14		400001	NUT-3/16 NC HEX	7	
15		1802006	BOLT-10-24 X 3/4 RND HD STOVE	7	
16		79803001	10 POLE TERMINAL BLOCK	1	
17		236435001	TERMINAL JUMPER	1	
18		243215001	HARNESS-OPERATOR STATION WIRE	1	
	*	277057001	HARNESS-OPERATOR STATION WIRE	1	S/N 1406-1610
19		374006	BOLT-5/16”-18 X 3/4GD#5 CARRIAGE	4	
20		2595009	CLAMP-1 1/4 HOSE #7701164	5	
			Continued On The Following Page		

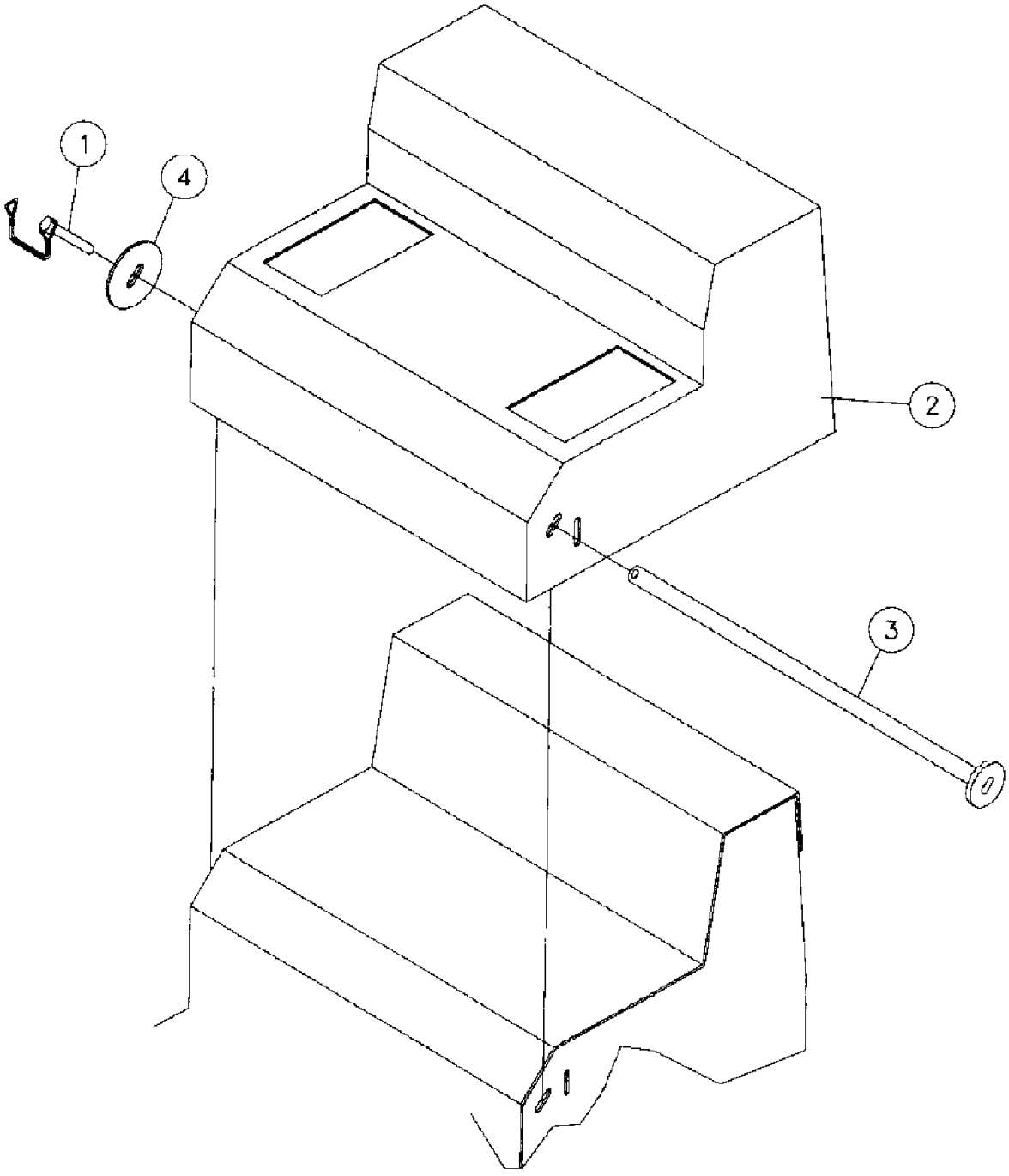
Control Panel Assy (S/N 101-1548, 1550-1610) (Continued) Fig 8-2r06



Control Panel Assy (S/N 101-1548, 1550-1610) (Continued) Fig 8-2r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
21		408001	NUT-5/16 NC FLG WHIZ LOCK	6	
22		103202001	SCREW-1/4-20 X 1/2 STH MACHINE	4	
23		277827001	MODULE-WATER CONTROL (M2906)	1	
24		37292001	SWITCH-TOGGLE SEALED	4	
25		86580001	SWITCH-DPST ON-ON	2	
26		217231001	ZAP ALERT-CURRENT SENSE	1	
27		285510001	COIL ZAP ALERT	1	
28		215995001	STRIKE ALERT RESET BUTTON ASSY	1	
		215996001	BUTTON-BLACK EXTENDED CONTACT	1	
		215997001	BOOT-BLACK RUBBER	1	
		215998001	BLOCK-N.C. CONTACT	1	
29		215991001	STRIKE ALERT TEST BUTTON ASSY	1	
		215993001	BOOT-GREEN RUBBER	1	
		215994001	BLOCK-N.O. CONTACT	1	
		215992001	BUTTON-GREEN FLUSH CONTACT	1	
30		226209001	BUTTON ASSY-CURRENT TEST	1	
		215993001	BOOT-GREEN RUBBER	1	
		904423001	CONTACT BLOCK	1	
		215992001	BUTTON-GREEN FLUSH CONTACT	1	
31		5537001	COVER-TOGGLE SWITCH	11	
32		485005	WASHER-5/16 FLAT	2	
33		201785001	TACH/HOURMETER DATCON 28A4EM	1	
34		201793001	GAUGE-WATER TEMP DATCON 826EM	1	
35		78114001	CONTROL KNOB #409D2K1	1	
36		69757001	LOCKNUT-#6-32 NYLON INSERT PLT	2	
37		57337001	WASHER-#6 FLAT	2	
38		250671001	BOLT-6-32 UNC X 2 STOVE	2	
39		86579001	SWITCH-4 POLE ON-ON-ON	1	
40		245090001	SWITCH-PUSHBUTTON	1	
41		244949001	CAPACITOR	1	
42		67263001	PLUG-4M	1	
43		78107001	BREAKER-10 AMP	1	
44		78105001	SWITCH-8502K4	1	
45		279312003	SWITCH-POTENTIOMETER	1	
46		279312001	MODULE -WATER CONTROL (M2906A)	1	Inc Ref No's 23 & 45
47		57938001	SWITCH-8510K2	1	
48		251695001	SWITCH - LIMIT SEALED W/3-PIN DEUTSCH	2	S/N 1400 -

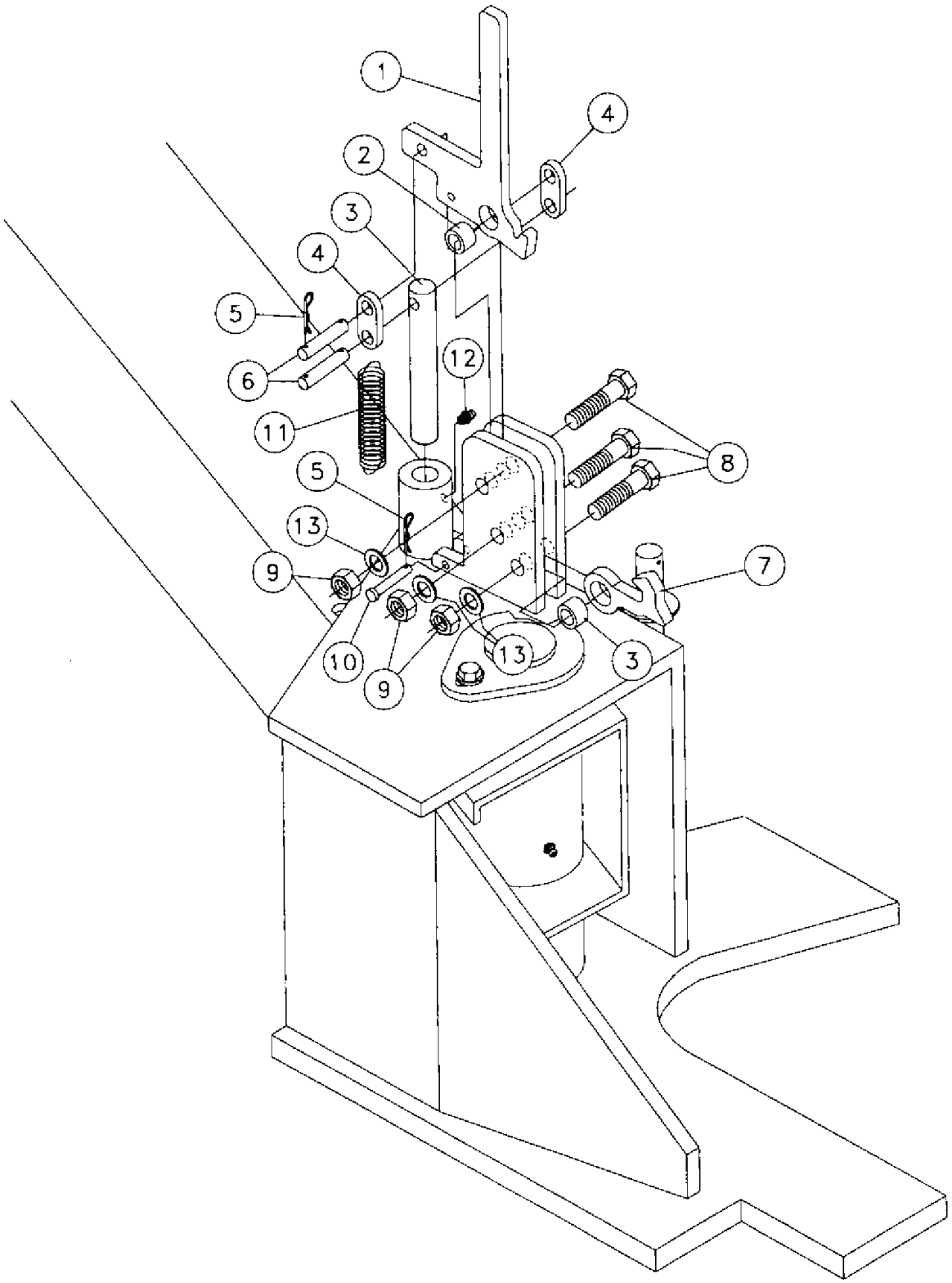
Vandal Shield Assy Fig 8-3



Vandal Shield Assy Fig 8-3

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		2108001	LYNCH PIN - 1/4 X 2	2	
2		230964001	COVER-VANDAL	2	
3		235975001	BAR-VANDAL SHIELD CROSS	2	
4		240758001	SHIM-SHIPPING	2	

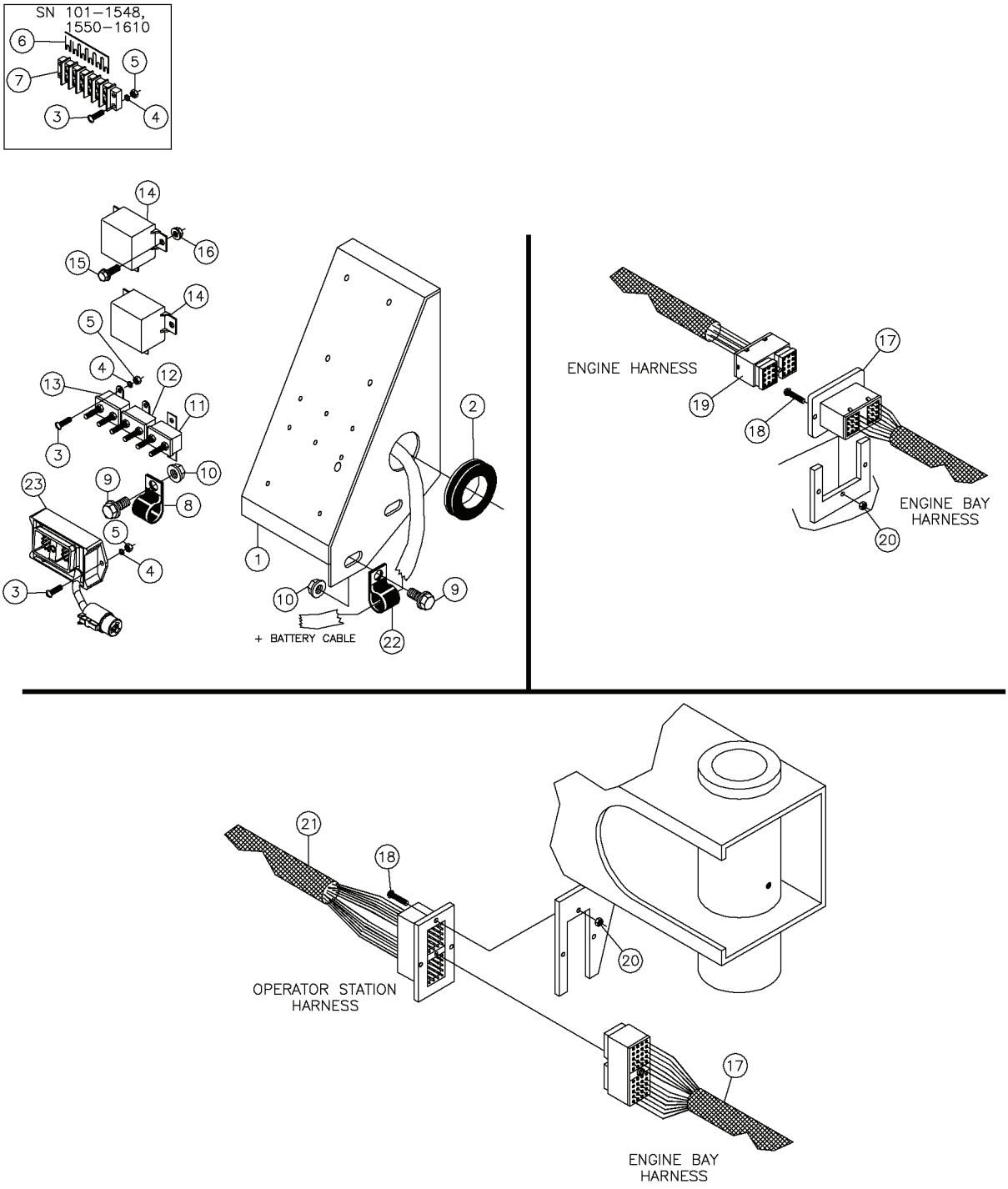
Seat Pivot Latch Assy Fig 8-4



Seat Pivot Latch Assy Fig 8-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		235862001	PLATE-HANDLE	1	
2		235868001	BRZ BUSHING-.752 X .5015- .50	2	
3		235864001	PIN	1	
4		235863001	PLATE-LINK	2	
5		1794007	HAIR PIN COTTER - .080 WIRE	5	
6		235866001	PIN-LINK	2	
7		235860001	PLATE-CATCH	1	
8		235718001	BOLT-1/2-13X2 GR8 HEX ZINC PLT	3	
9		235731001	NUT-1/2-13 GR8 ZINC PLTD	3	
10		235878001	CLEVIS PIN-1/4 X 1 1/2	1	
11		235869001	SPRING-EXT. 3/4 OD X .085-3.00	1	
12		598001	ZERK-1/4” NF ST GREASE	1	
13		485025	WASHER-1/2 FLAT-HARDENED-ZINC	3	

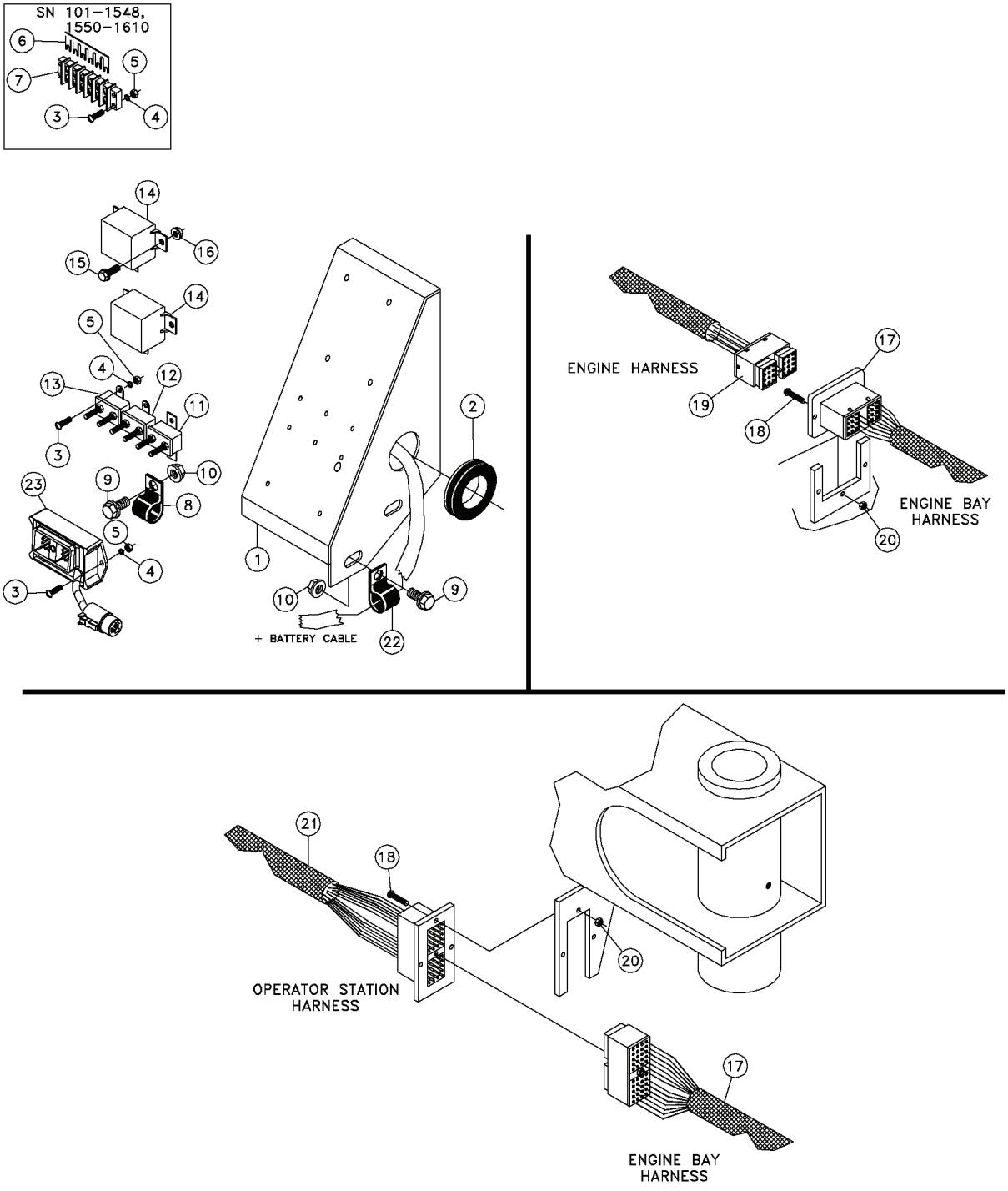
Engine Electrical Panel/Harness Assy Fig 8-5r04



Engine Electrical Panel/Harness Assy Fig 8-5r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		238646001	PANEL-ELECTRICAL	1	
2		902402001	GROMMET-1 1/2" RUBBER	1	
3		1802006	BOLT-10-24 X 3/4 RND HD STOVE	8	
4		480001	WASHER-3/16 S/T LOCK	8	
5		400001	NUT-3/16 NC HEX	8	
6		26453001	TERMINAL JUMPER-267-A42-6	1	
7		26452001	TERMINAL-2006	1	S/N 101-1548, 1550-1610
8		279014001	HOSE CLAMP 5/8" W/ 13/32 HOLE	1	
9		4475006	BOLT-3/8-16 X 3/4 FLG WHIZ	2	
10		4536001	NUT -3/8-16 FLG. WHIZ LOCK	2	
11		86582001	BREAKER-40A TYPE W/METAL CASE	1	
12		64075001	BREAKER-RAMCO 121A30A3M01	1	
13		21285001	BREAKER-RAMCO 12A15A0 15AMP	1	
14		86217001	RELAY-BOSCH SPST 75 AMP SEALED	2	
15		4473006	BOLT-1/4-20 X 3/4 FLG WHIZ	4	
16		405001	NUT-1/4 NC FLG WHIZ LOCK	4	
17		243214001	HARNESS-ENGINE BAY WIRE	1	S/N 101-1399
	*	277056001	HARNESS - ENGINE BAY WIRE	1	S/N 1400 -1911
	*	287676001	HARNESS - ENGINE BAY WIRE	1	S/N 1912 -
18		10530006	SCREW-#18 32 X 3/4 RDHDSLOT MACH	3	
19		249006001	HARNESS-ENGINE WIRE	1	S/N 101-1399
	*	277058001	HARNESS - ENGINE WIRE	1	S/N 1400-1911
	*	287677001	HARNESS - ENGINE WIRE	1	S/N 1912 -
20		69759001	LOCK NUT-#8-32 NYLON INSERT PL	3	
21		243215001	HARNESS-OPERATOR STATION WIRE	1	S/N 101-1399
	*	277057001	HARNESS-OPERATOR STATION WIRE	1	S/N 1400-1911
	*	287680001	HARNESS - OPERATOR STATION WIRE	1	S/N 1912 -
22		279015001	HOSE CLAMP 9/16 W/ 13/32 HOLE	1	
23	*	281526001	BUSS BAR MODULE	1	S/N 1549, 1611 -

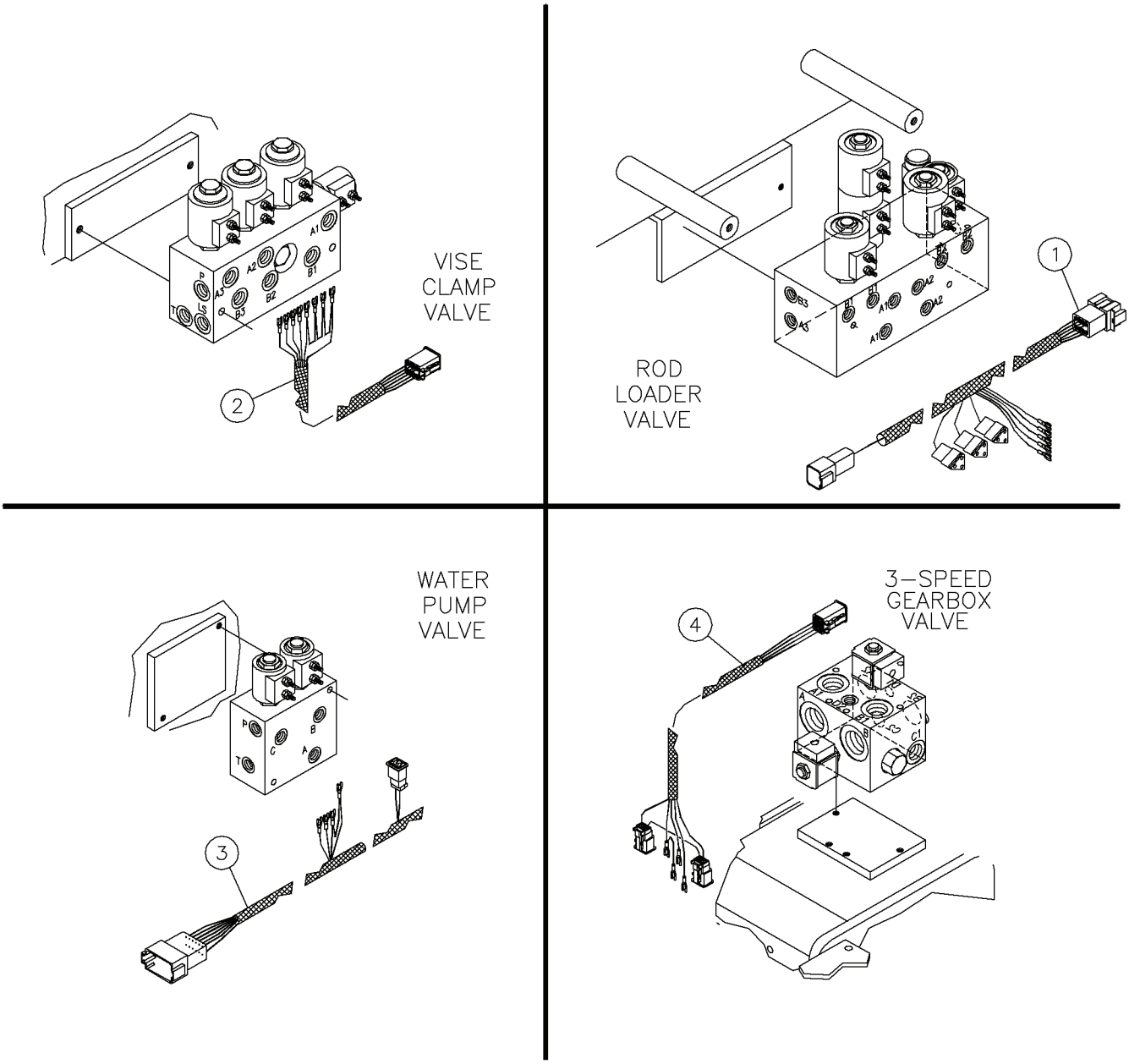
Engine Electrical Panel/Harness Assy Fig 8-5r03



Engine Electrical Panel/Harness Assy Fig 8-5r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		238646001	PANEL-ELECTRICAL	1	
2		902402001	GROMMET-1 1/2" RUBBER	1	
3		1802006	BOLT-10-24 X 3/4 RND HD STOVE	8	
4		480001	WASHER-3/16 S/T LOCK	8	
5		400001	NUT-3/16 NC HEX	8	
6		26453001	TERMINAL JUMPER-267-A42-6	1	
7		26452001	TERMINAL-2006	1	S/N 101-1548, 1550-1610
8		279014001	HOSE CLAMP 5/8" W/ 13/32 HOLE	1	
9		4475006	BOLT-3/8-16 X 3/4 FLG WHIZ	2	
10		4536001	NUT -3/8-16 FLG. WHIZ LOCK	2	
11		86582001	BREAKER-40A TYPE W/METAL CASE	1	
12		64075001	BREAKER-RAMCO 121A30A3M01	1	
13		21285001	BREAKER-RAMCO 12A15A0 15AMP	1	
14		86217001	RELAY-BOSCH SPST 75 AMP SEALED	2	
15		4473006	BOLT-1/4-20 X 3/4 FLG WHIZ	4	
16		405001	NUT-1/4 NC FLG WHIZ LOCK	4	
17		243214001	HARNESS-ENGINE BAY WIRE	1	S/N 101-1399
	*	277056001	HARNESS - ENGINE BAY WIRE	1	S/N 1400 -
18		10530006	SCREW-#18 32 X 3/4 RDHDSLOT MACH	3	
19		249006001	HARNESS-ENGINE WIRE	1	S/N 101-1399
	*	27058001	HARNESS-ENGINE WIRE	1	S/N 1400 -
20		69759001	LOCK NUT-#8-32 NYLON INSERT PL	3	
21		243215001	HARNESS-OPERATOR STATION WIRE	1	S/N 101-1399
	*	277057001	HARNESS-OPERATOR STATION WIRE	1	S/N 1400 -
22		279015001	HOSE CLAMP 9/16 W/ 13/32 HOLE	1	
23	*	281528001	FLOWMETER-38 GPM (APLEX)	1	S/N 1549, 1611 -

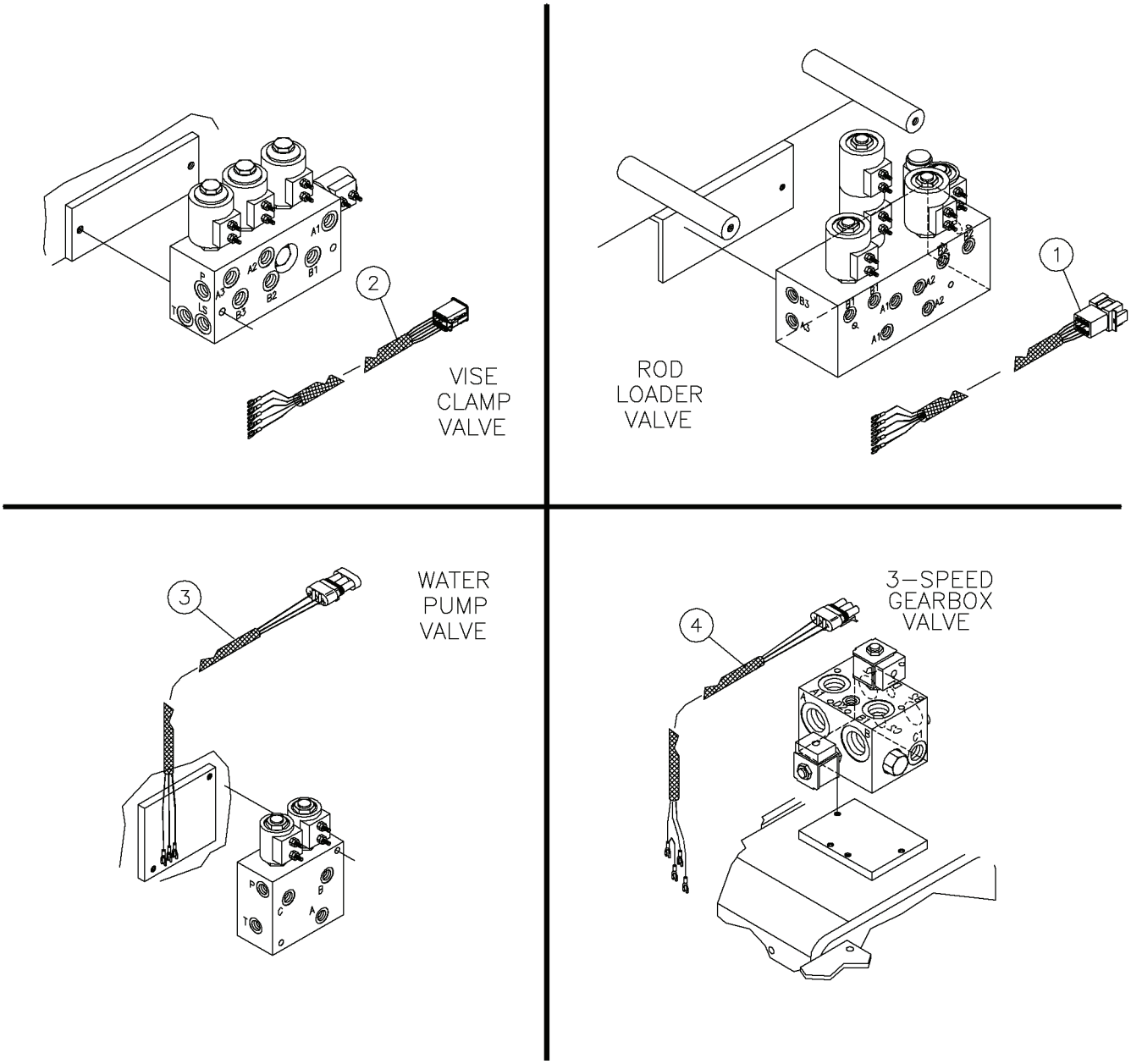
Wire Harness Assy Fig 8-6r03



Wire Harness Assy Fig 8-6r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
1		243212001	HARNESS-ROD LOADER WIRE	1	S/N 101-1399
	*	277062001	HARNESS - ROD LOADER WIRE	1	S/N 1400-1911
	*	287674001	HARNESS - ROD LOADER WIRE	1	S/N 1912-
2		243213001	HARNESS-VISE WIRE	1	S/N 101-1399
	*	277063001	HARNESS - VISE WIRE	1	S/N 1400-1911
	*	287681001	HARNESS - VISE WIRE	1	S/N 1912-
3		243211001	HARNESS-WATER VALVE WIRE	1	S/N 101-1399
	*	277061001	HARNESS - WATER VALVE WIRE	1	S/N 1400-1911
	*	287678001	HARNESS - WATER VALVE WIRE	1	S/N 1912-
4	*	243216001	HARNESS-3 SPEED WIRE	1	S/N 101-1911
	*	287679001	HARNESS - THREE SPEED WIRE	1	S/N 1912-

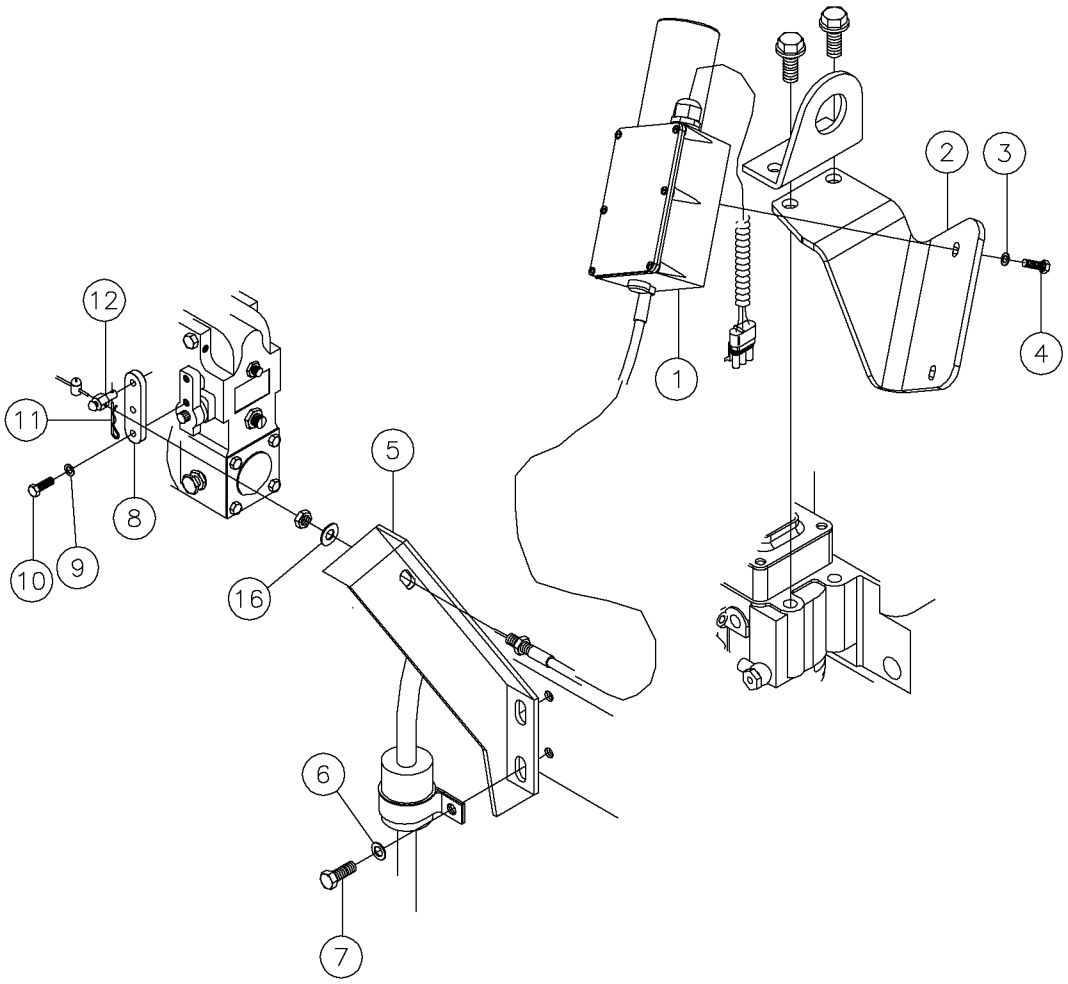
Wire Harness Assy Fig 8-6r02

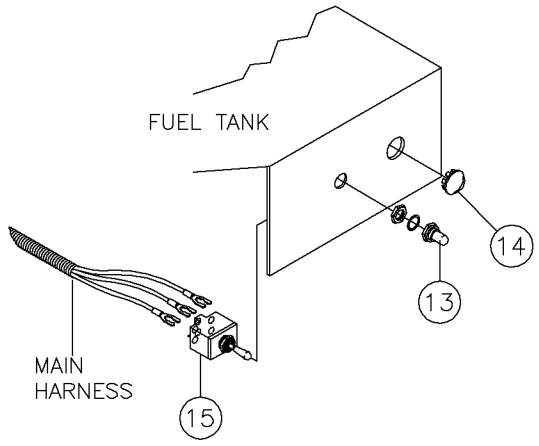


Wire Harness Assy Fig 8-6r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
1		243212001	HARNESS-ROD LOADER WIRE	1	S/N 101-1399
	*	277062001	HARNESS - ROD LOADER WIRE	1	S/N 1400 -
2		243213001	HARNESS-VISE WIRE	1	S/N 101-1399
	*	277063001	HARNESS - VISE WIRE	1	S/N 1400 -
3		243211001	HARNESS-WATER VALVE WIRE	1	S/N 101-1399
	*	277061001	HARNESS - WATER VALVE WIRE	1	S/N 1400 -
4		243216001	HARNESS-3 SPEED WIRE	1	

Throttle Solenoid Assy (S/N 1549, 1598 -) Fig 8-7r08

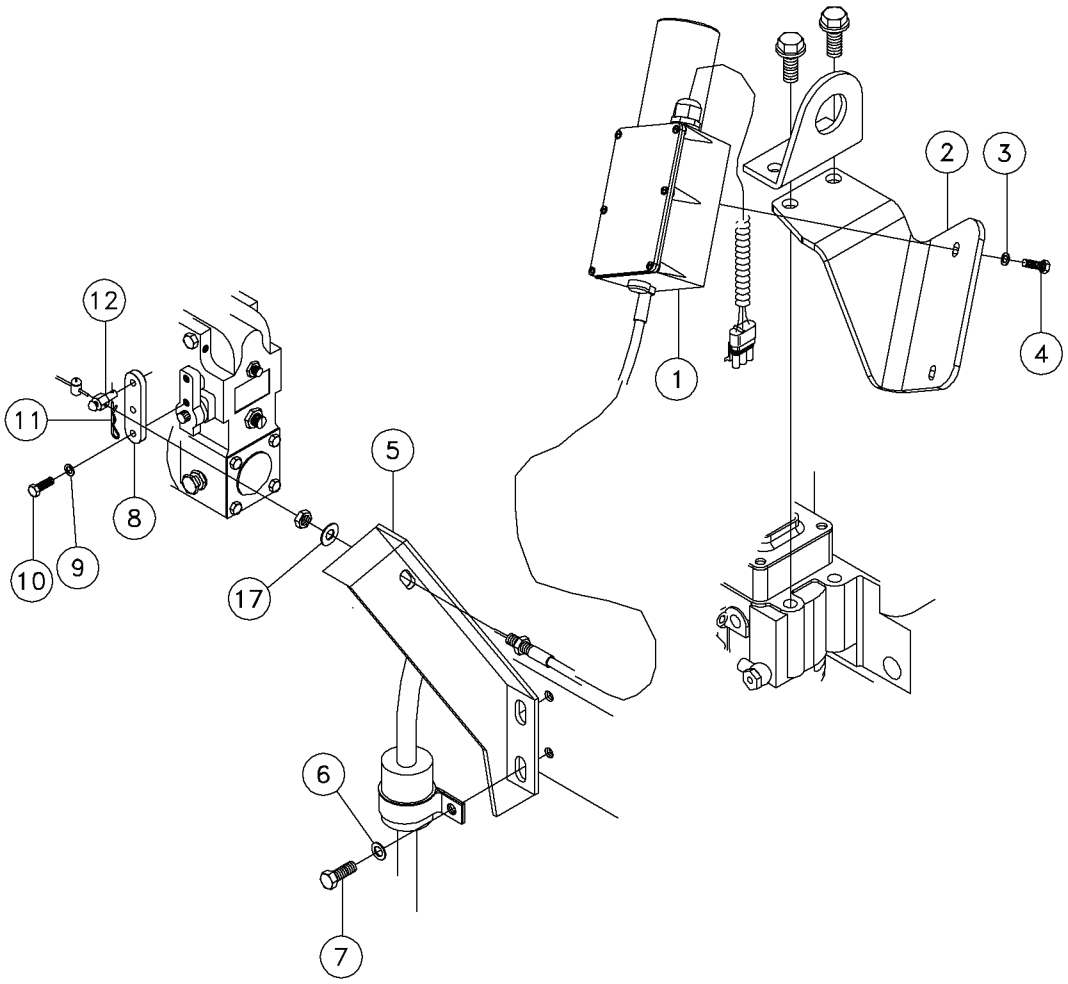


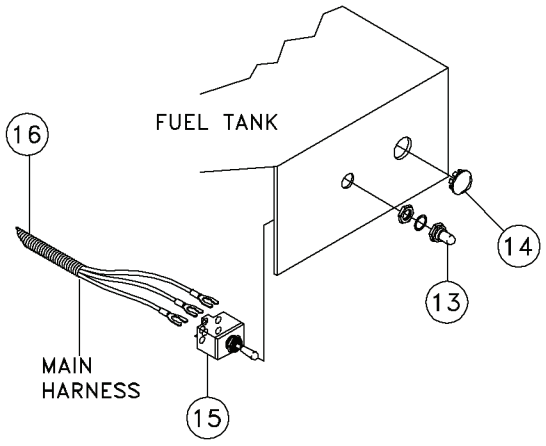


Throttle Solenoid Assy (S/N 1549, 1598 -) Fig 8-7r08

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		278758001	SOLENOID THROTTLE	1	
2		283595001	PLATE-THROTTLE ACTUATOR	1	
3		235716001	WASHER-1/4 SAE HARD ZINC PLTD	2	
4		235734001	BOLT-1/4-20 X 3/4 GR 8 ZINC PLTD	2	
5		283585001	BRACKET-CABLE MOUNT	1	
6		238249001	12MM HARD WASHER Y/ZINC	2	
7	*	250516001	BOLT - 12M X 35M Gr8 Y/ZINC	2	
8		251205001	BAR-THROTTLE ARM	1	
9		250511001	6MM HARD WASHER Y/ZINC	2	
10		243776001	BOLT -6M X 15M HEX METRIC 2INL	2	
11		1794007	HAIR PIN COTTER-.080 WIRE	1	
12		2809001	PIVOT	1	
13		5537001	COVER-TOGGLE SWITCH	1	
14		88420001	PLUG-BLACK W/RECESSED HEAD	1	
15		57938001	SWITCH	1	
16	*	235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	1	

Throttle Solenoid Assy (S/N 1549, 1598 -) Fig 8-7r07

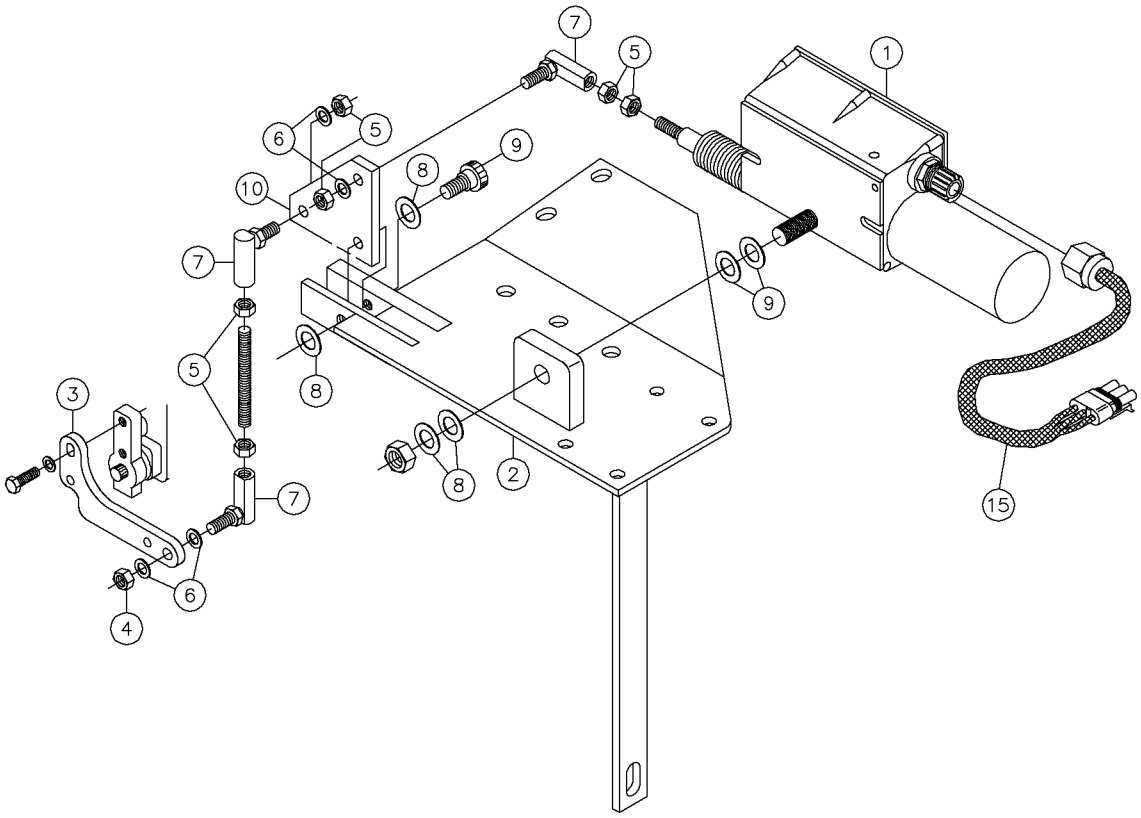


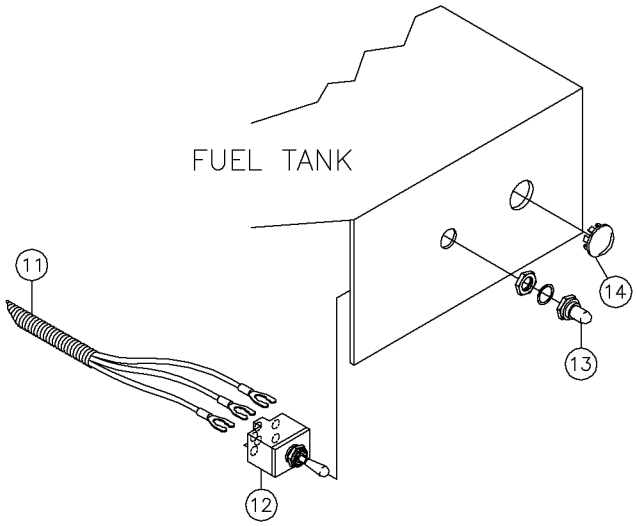


Throttle Solenoid Assy (S/N 1549, 1598 -) Fig 8-7r07

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List.
1		278758001	SOLENOID THROTTLE	1	
2		283595001	PLATE-THROTTLE ACTUATOR	1	
3		235716001	WASHER-1/4 SAE HARD ZINC PLTD	2	
4		235734001	BOLT-1/4-20 X 3/4 GR 8 ZINC PLTD	2	
5		283585001	BRACKET-CABLE MOUNT	1	
6		238249001	12MM HARD WASHER Y/ZINC	2	
7		250576001	BOLT-12M X 35M GR 8 Y/ZINC	2	
8		251205001	BAR-THROTTLE ARM	1	
9		250511001	6MM HARD WASHER Y/ZINC	2	
10		243776001	BOLT -6M X 15M HEX METRIC 2INL	2	
11		1794007	HAIR PIN COTTER-.080 WIRE	1	
12		2809001	PIVOT	1	
13		5537001	COVER-TOGGLE SWITCH	1	
14		88420001	PLUG-BLACK W/RECESSED HEAD	1	
15		57938001	SWITCH	1	
16		279022001	HARNESS-THROTTLE SOLENOID	1	
17	*	235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325		

Throttle Solenoid Assy (S/N 101-1548, 1550-1597) Fig 8-7r05c1

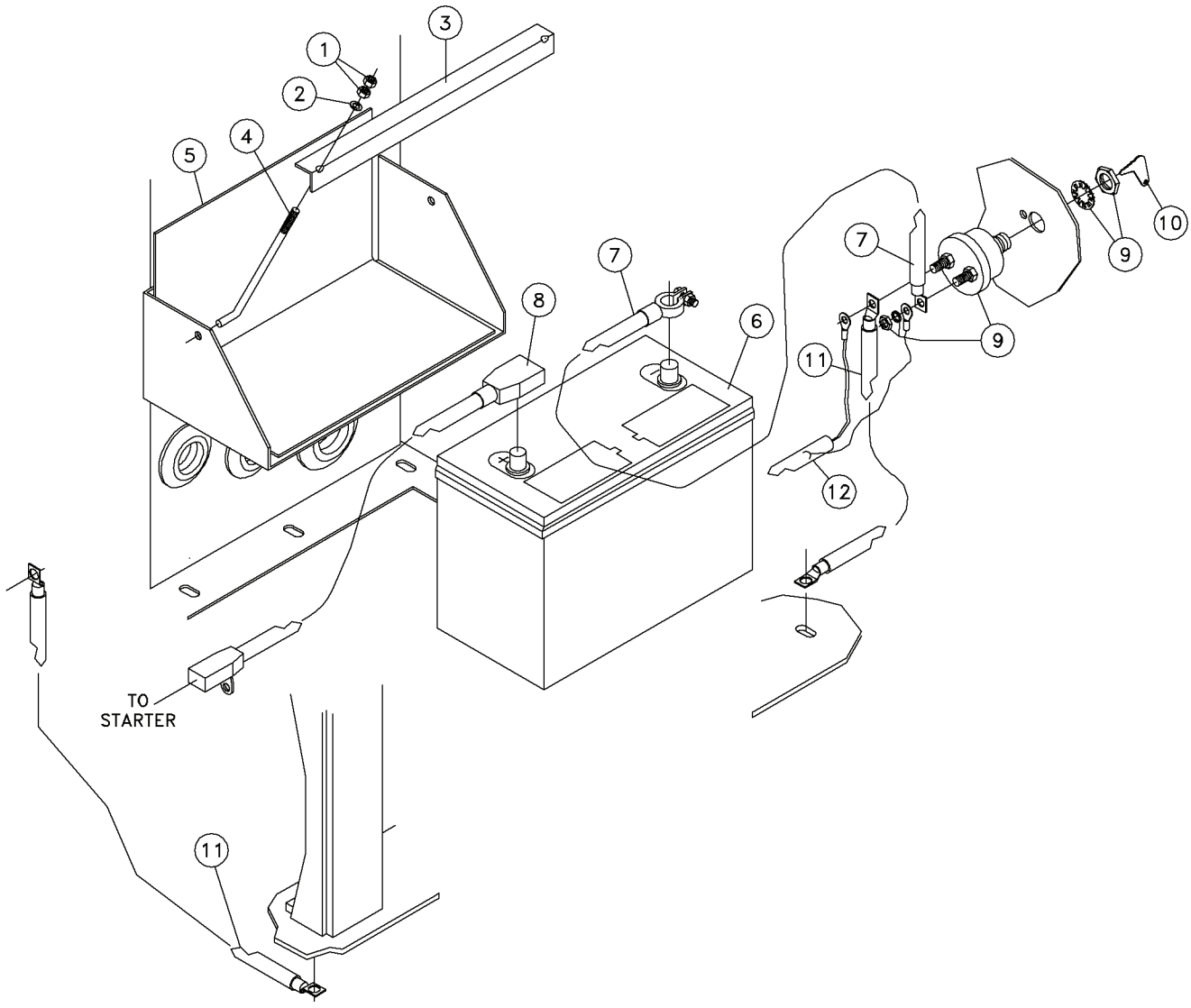




Throttle Solenoid Assy (S/N 101-1548, 1550-1597) Fig 8-7r05c1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		251138001	SOLENOID-THROTTLE	1	
2		250670001	MOUNT-THROTTLE SOLENOID	1	
3		250636001	BAR MOUNT-THROTTLE LINKAGE	1	
4		235741010	NUT-5/16-18 GR 8 ZINC PLTD	5	
5		445001	NUT-5/16 NF HEX	6	
6		235714001	WASHER-5/16 SAE HARD ZINC PLTD	4	
7	*	78530005	BALL JOINT	3	
8		4542005	WASHER-7/8OD X 1/21D X 18 GA MB	4	
9		238717001	SCREW-1/2 X 5/8 SOC. HD SHOULDER	1	
10		238690001	PLATE-THROTTLE LINKAGE PIVOT OS	1	
11	*	279022001	HARNESS-THROTTLE SOLENOID	1	S/N 101-1241, 1242 + Incorp. Into Main Harness
12		57938001	SWITCH-8510K2	1	
13		5537001	COVER-TOGGLE SWITCH	1	
14		88420001	PLUG-BACK W/RECESSED HEAD	1	
15		277064001	HARNESS-THROTTLE ACTUATORS	1	
end			Throttle Solenoid Assy (S/N 1548, 1550-1597) Fig. 8-7r08		

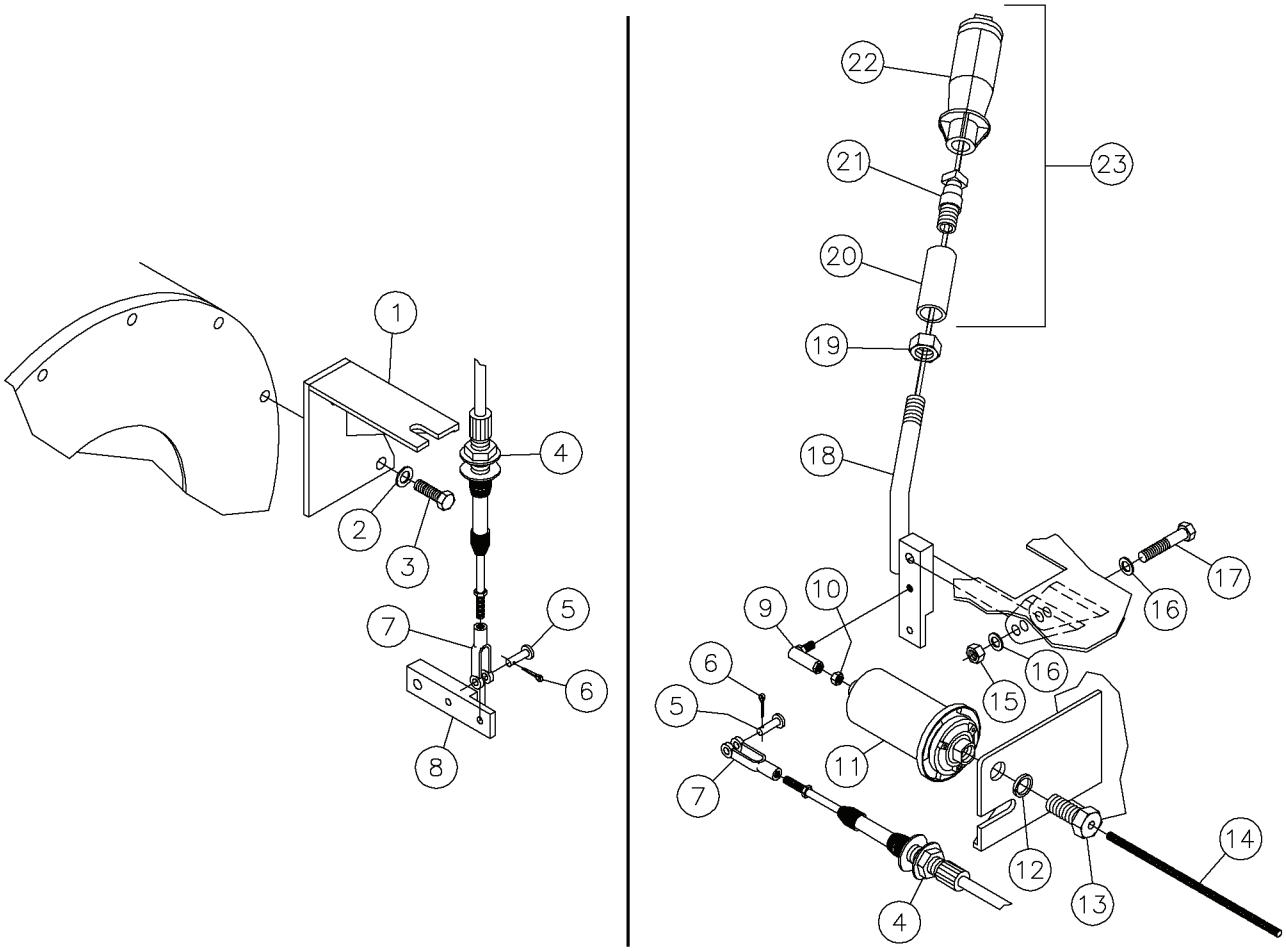
Battery Assy Fig 8-8r01



Battery Assy Fig 8-8r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		235741001	NUT-5/16-18 GR8 ZINC PLTD	4	
2		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	
3		214360001	HOLDDOWN-BATTERY	1	
4		240880001	BOLT-BATTERY ANCHOR	2	
5		903884001	PAD-BATTERY	1	
6		NSS	BATTERY-GROUPO 31 950CCA	1	
7		228399001	CABLE-BATT. 2/0GA.X40”N-E BLACK	1	
8		245015001	BATT CABLE-2/10 3/8 90D 48P-ER	1	
9		904365001	DISCONNECT SWITCH	1	
10		87356003	KEY	1	
11		228400001	CABLE-BATT. 2/0 GA.X15”E-E BLK	2	
12	*	287571001	HARNESS - ENGINE WIRE	1	S/N 1549, 1611 -
		NSS	Not Sold Separately		

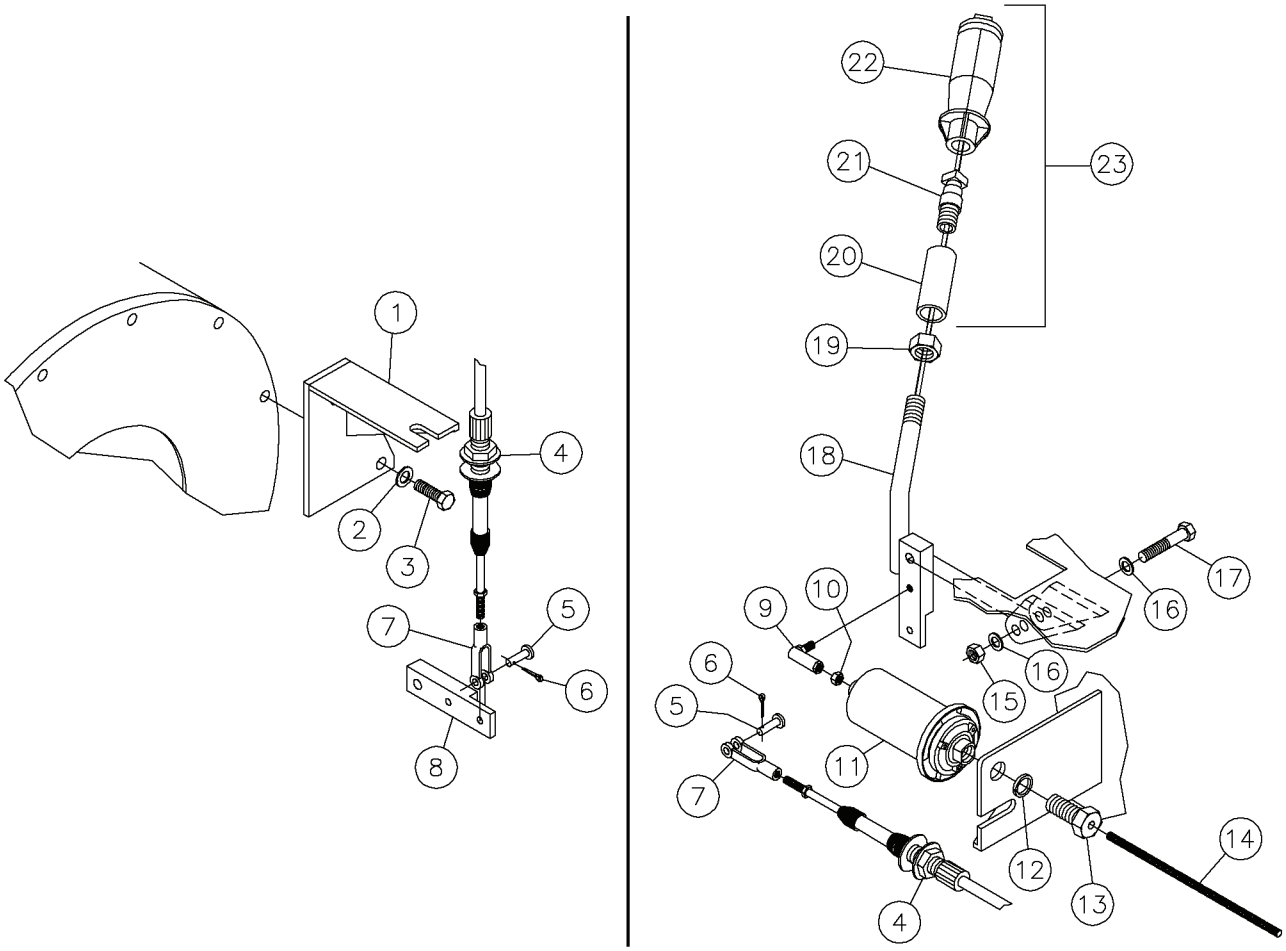
Control Lever Assy (Rotation) Fig 8-9r04



Control Lever Assy (Rotation) Fig 8-9r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration & Parts List.
1		228364001	MOUNT-CABLE	1	
2		240061001	WASHER-10MM HARDENED FLAT ZNC	2	
3		238889001	BOLT-M10 X 1.5 X 35HHCS CL-8.8 ZY	2	
4		228398001	CABLE-180” CONTROL	1	
5		2110003	PIN-CLEVIS 1/4 X 7/8-47/64 UL	2	
6		510005	COTTER PIN-3/32” X 3/4”	2	
7		2786001	CLEVIS-A31125 30 SERIES	2	
8		228118001	LEVER-90 SERIES MODIFIED	1	
9		1489001	BALL JOINT - 1/4” SP1002 CP	1	
10		4734001	NUT-1/4-28 NF HEX	1	
11		220180001	SPRING CENTER-CABLE CONTROL	1	
12		480015	WASHER-5/8 S/T LOCK	1	
13		228412001	BOLT-GUIDE MOUNT	1	
14		282870001	ROD - SPRING GUIDE	1	Replaces 220107001
15		235725001	NUT-3/8-16 GR8 ZINC PLTD	1	
16		235713001	WASHER-3/8 SAE HARD ZINC PLTD	2	
17		240454001	BOLT-3/8-16 X 2 GR#8 ZINC PLTD	1	
18		228361001	LEVER-ROTATION	1	
19		452001	NUT-5/8 N.F. HEX	1	
20		216295001	TUBE-EXTENSION	1	
21		216293001	ROD-JOYSTICK	1	
22		251517003	HANDLE ASSY-CONTROL	1	Breakdown Fig. 8-16r01
23		250693001	THROTTLE HANDLE ASSEMBLY	1	Inc Ref 20-22

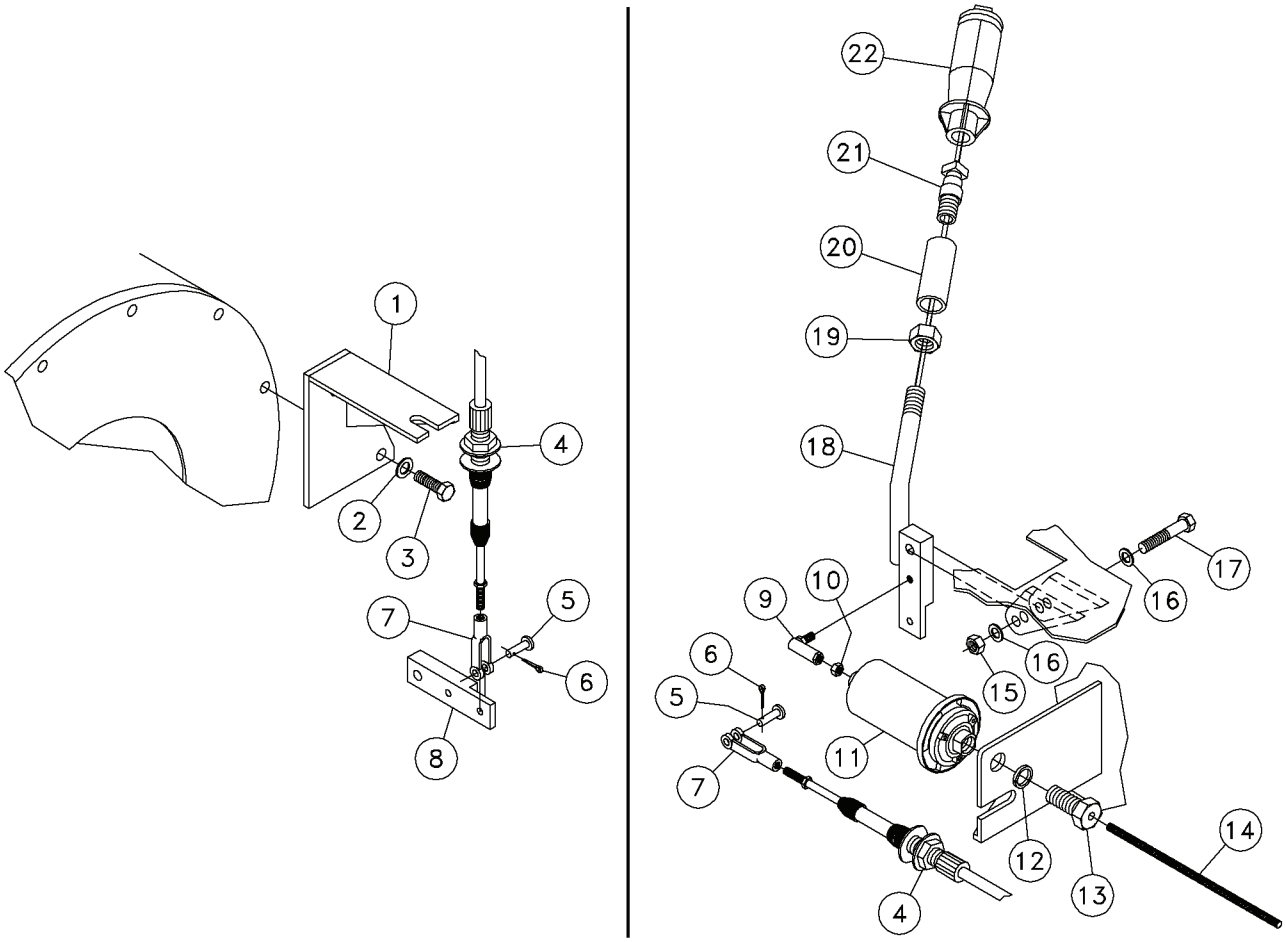
Control Lever Assy (Rotation) Fig 8-9r03



Control Lever Assy (Rotation) Fig 8-9r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Update In Illustration & Parts List.
1		228364001	MOUNT-CABLE	1	
2		240061001	WASHER-10MM HARDENED FLAT ZNC	2	
3		238889001	BOLT-M10 X 1.5 X 35HHCS CL-8.8 ZY	2	
4		228398001	CABLE-180” CONTROL	1	
5		2110003	PIN-CLEVIS 1/4 X 7/8-47/64 UL	2	
6		510005	COTTER PIN-3/32” X 3/4”	2	
7		2786001	CLEVIS-A31125 30 SERIES	2	
8		228118001	LEVER-90 SERIES MODIFIED	1	
9		1489001	BALL JOINT - 1/4” SP1002 CP	1	
10		4734001	NUT-1/4-28 NF HEX	1	
11		220180001	SPRING CENTER-CABLE CONTROL	1	
12		480015	WASHER-5/8 S/T LOCK	1	
13		228412001	BOLT-GUIDE MOUNT	1	
14		282870001	ROD - SPRING GUIDE	1	Replaces 220107001
15		235725001	NUT-3/8-16 GR8 ZINC PLTD	1	
16		235713001	WASHER-3/8 SAE HARD ZINC PLTD	2	
17		240454001	BOLT-3/8-16 X 2 GR#8 ZINC PLTD	1	
18		228361001	LEVER-ROTATION	1	
19		452001	NUT-5/8 N.F. HEX	1	
20		216295001	TUBE-EXTENSION	1	
21		216293001	ROD-JOYSTICK	1	
22		228407001	HANDLE ASSY-CONTROL	1	Breakdown Fig. 8-16
23		250693001	THROTTLE HANDLE ASSEMBLY	1	Inc Ref 20-22

Control Lever Assy (Rotation) Fig 8-9r02

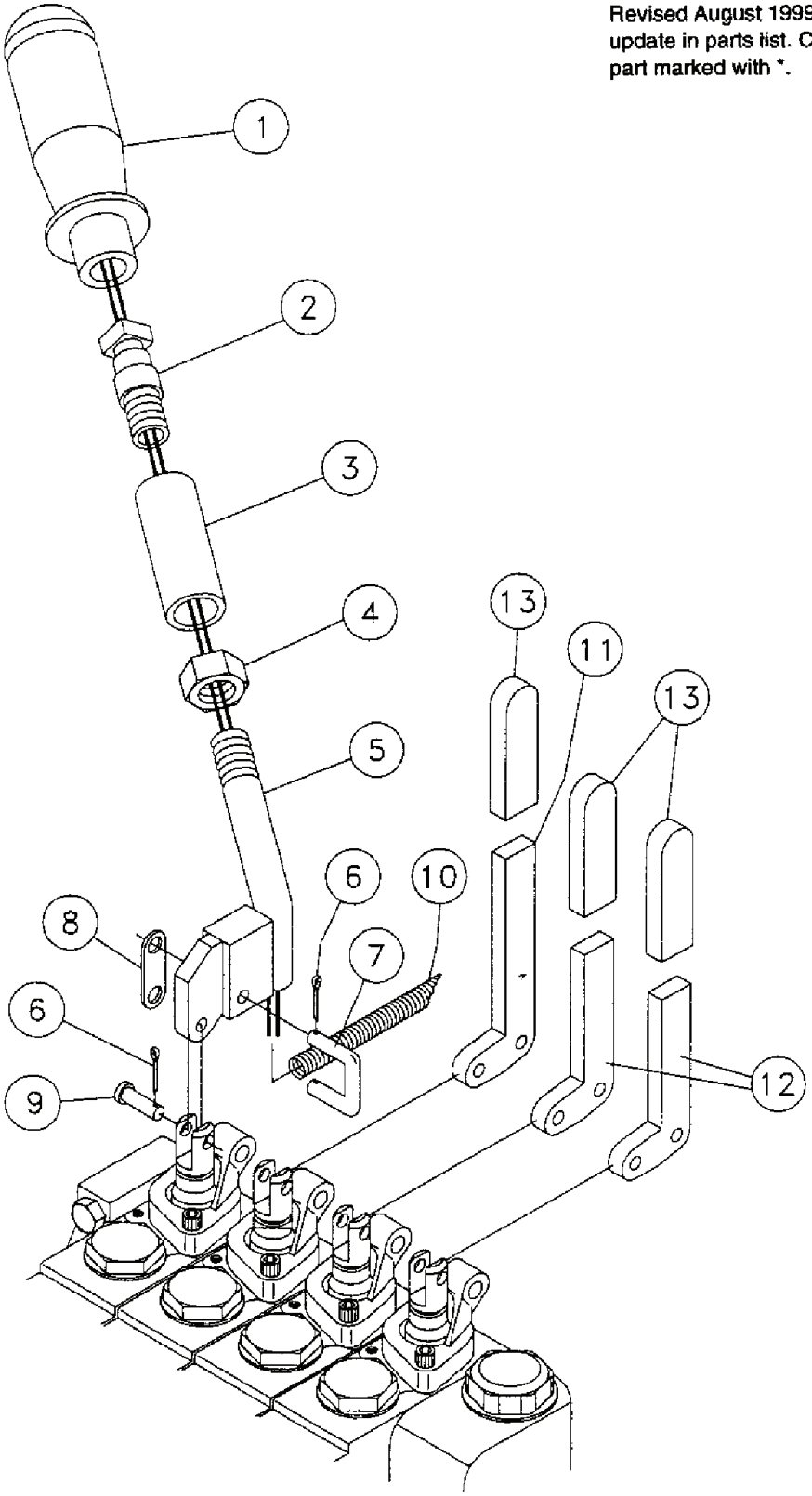


Control Lever Assy (Rotation) Fig 8-9r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List.
1		228364001	MOUNT-CABLE	1	
2		240061001	WASHER-10MM HARDENED FLAT ZNC	2	
3		238889001	BOLT-M10 X 1.5 X 35HHCS CL-8.8 ZY	2	
4		228398001	CABLE-180” CONTROL	1	
5		2110003	PIN-CLEVIS 1/4 X 7/8-47/64 UL	2	
6		510005	COTTER PIN-3/32” X 3/4”	2	
7		2786001	CLEVIS-A31125 30 SERIES	2	
8		228118001	LEVER-90 SERIES MODIFIED	1	
9		1489001	BALL JOINT - 1/4” SP1002 CP	1	
10		4734001	NUT-1/4-28 NF HEX	1	
11		220180001	SPRING CENTER-CABLE CONTROL	1	
12		480015	WASHER-5/8 S/T LOCK	1	
13		228412001	BOLT-GUIDE MOUNT	1	
14	*	282870001	ROD - SPRING GUIDE	1	Replaces 220107001
15		235725001	NUT-3/8-16 GR8 ZINC PLTD	1	
16		235713001	WASHER-3/8 SAE HARD ZINC PLTD	2	
17		240454001	BOLT-3/8-16 X 2 GR#8 ZINC PLTD	1	
18		228361001	LEVER-ROTATION	1	
19		452001	NUT-5/8 N.F. HEX	1	
20		216295001	TUBE-EXTENSION	1	
21		216293001	ROD-JOYSTICK	1	
22		228407001	HANDLE ASSY-CONTROL	1	Breakdown Fig. 8-16

Control Lever Assy (Thrust/Pullback) Fig 8-10r02

Revised August 1999 due to update in parts list. Changed part marked with *.

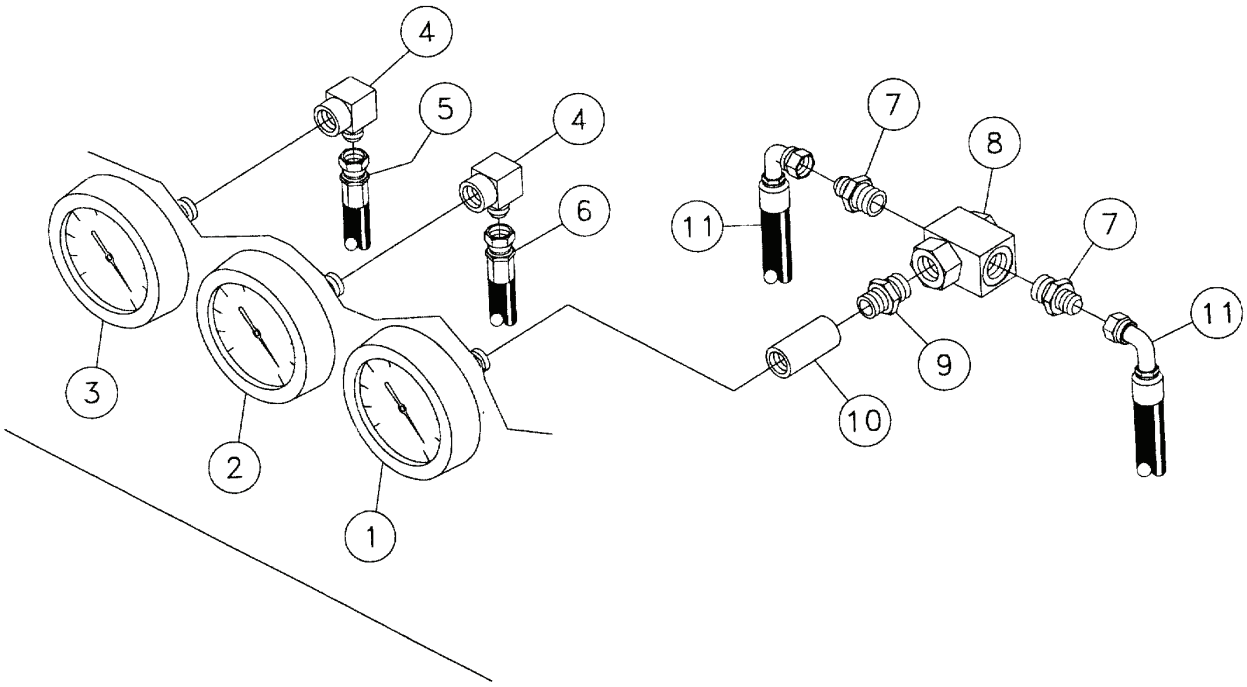


Control Lever Assy (Thrust/Pullback) Fig 8-10r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	August, 1999		Update In Parts List.
]		228406001	HANDLE ASSY-CONTROL (BREAKDOWN FIG.	1	Breakdown Fig 8-15
2		216293001	ROD-JOYSTICK	1	
3		216295001	TUBE-EXTENSION	1	
4	*	250526001	NUT - 5/8-18 NF HEX Y/ZINC	2	
5		228403001	LEVER-THRUST/PULLBACK	1	
6		510035	PIN-3/32 X 1/2 COTTER	12	
7		4333003	LINK	4	
8		4333005	PLATE-LINK	4	
9		2110003	PIN-CLEVIS 1/4X7/8 - 47/64 UL	4	
10		86319001	LOOM-FLEX GARD HI TEMP 3/8 ID	1	
11		228494001	LEVER-CONTROL VALVE	1	
12		228495001	LEVER-CONTROL VALVE	2	
13		201482001	HANDLE-BLACK PLASTIC 2 1/2”	3	

Pressure Gauge Assy Fig 8-11r02

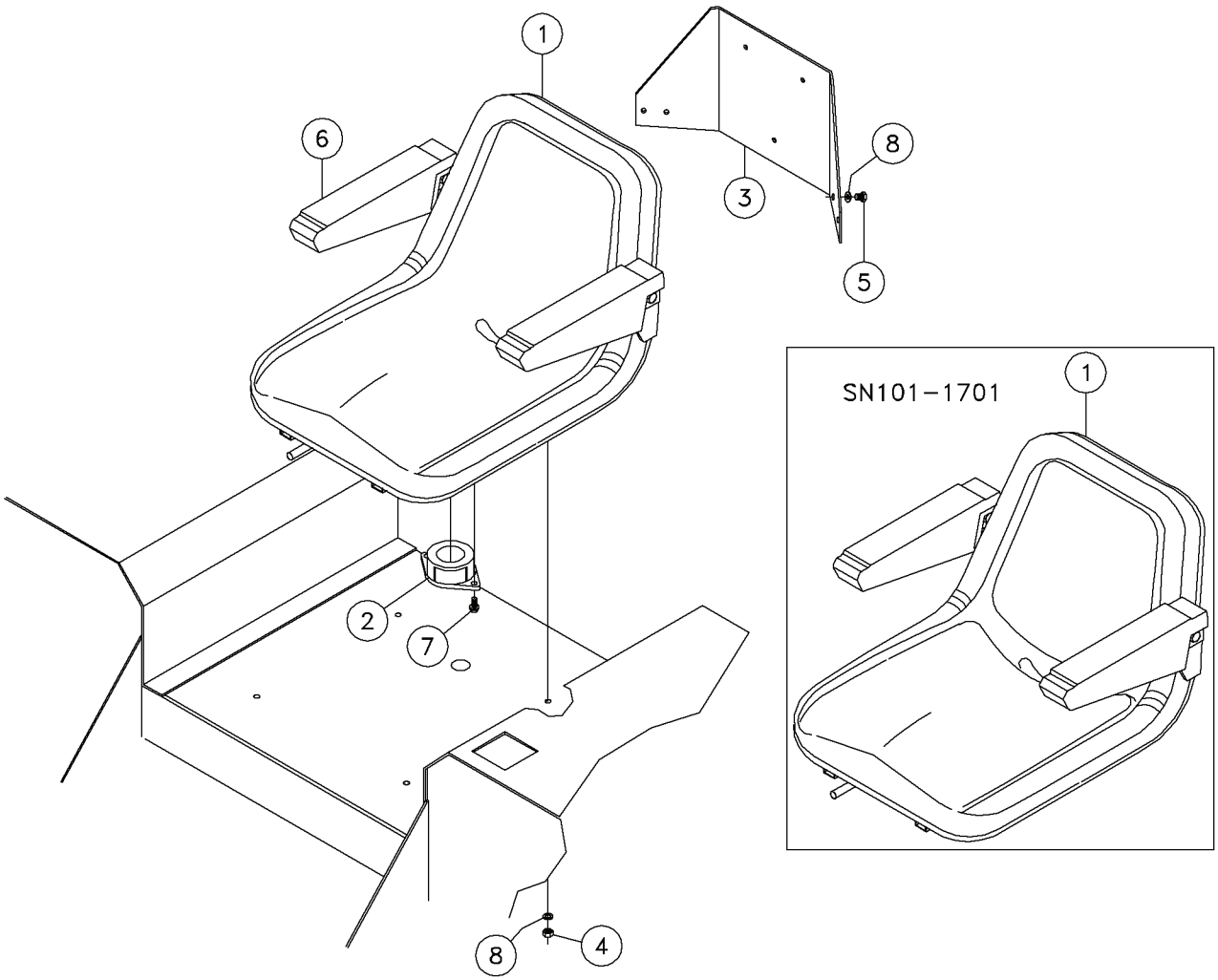
Revised February 2000 due to update in parts list. Changed parts marked with *.



Pressure Gauge Assy Fig 8-11r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Parts List.
1	*	904537001	GAUGE - PRESSURE 5000 PSI W/ GASKET	1	
2	*	228421001	GAUGE-7500PSI SPAN	1	
3	*	234343001	GUAGE - PRESSURE 0-2000 PSI W/ GASKET	1	
4		81665001	FITTING-1/4FX4M JIC 90 DEG.	2	
5		53843721	HOSE-1/4X206 4FSJICST 3000PSI	1	
6		53843739	HOSE-1/4X118 4FSJICST/ST 6000#	1	
7		57968001	6M O-RING 4M JIC STRAIGHT	2	
8		240391001	VALVE-SHUTTLE	1	
9		100852001	FITTING-6MORINGX1/4M STR.	1	
10		723001	1/4” COUPLING BLACK STEEL	1	
11		53843741	HOSE-1/4X18 4FSJICST/90 3000#	2	

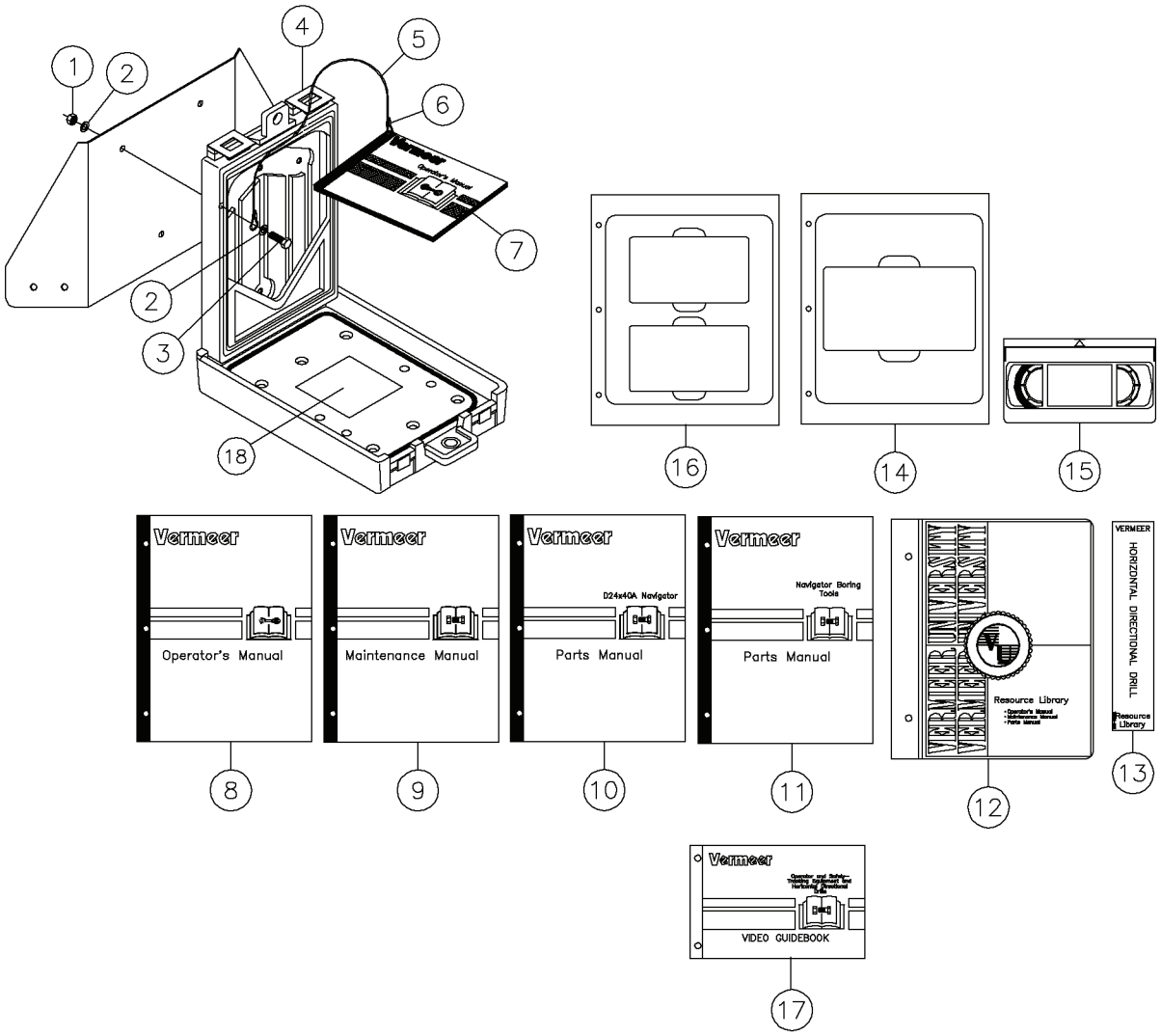
Seat Assy Fig 8-12r02



Seat Assy Fig 8-12r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List.
1		219186001	SEAT-MILSCO OLYMPIC	1	S/N 101-1701, Does Not Include Arm Rest
	*	279361001	SEAT - MILSCO W/ ONE FOAM PC.		S/N 1702 -, Does Not Include Arm Rest
2		219186003	SWITCH-SAFETY	1	Inc Ref No's 5 & 6
3		235683001	MOUNT-MANUAL BOX	4	
4		235741001	NUT - HEX - .31 - 18 - GR8 -YZ	4	
5		235740001	BOLT-5/16-18X1/2 GR8 ZINC PLT	4	
6		220238001	KIT-MILSCO OLYMPIC ARM REST	1	Option, Includes Mounting Hardware
7		4473004	1/4-20X1/2 FLGE WHIZ BOLT	2	
8		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	8	

Literature Box Assy (S/N 642 -) Fig 8-13r03

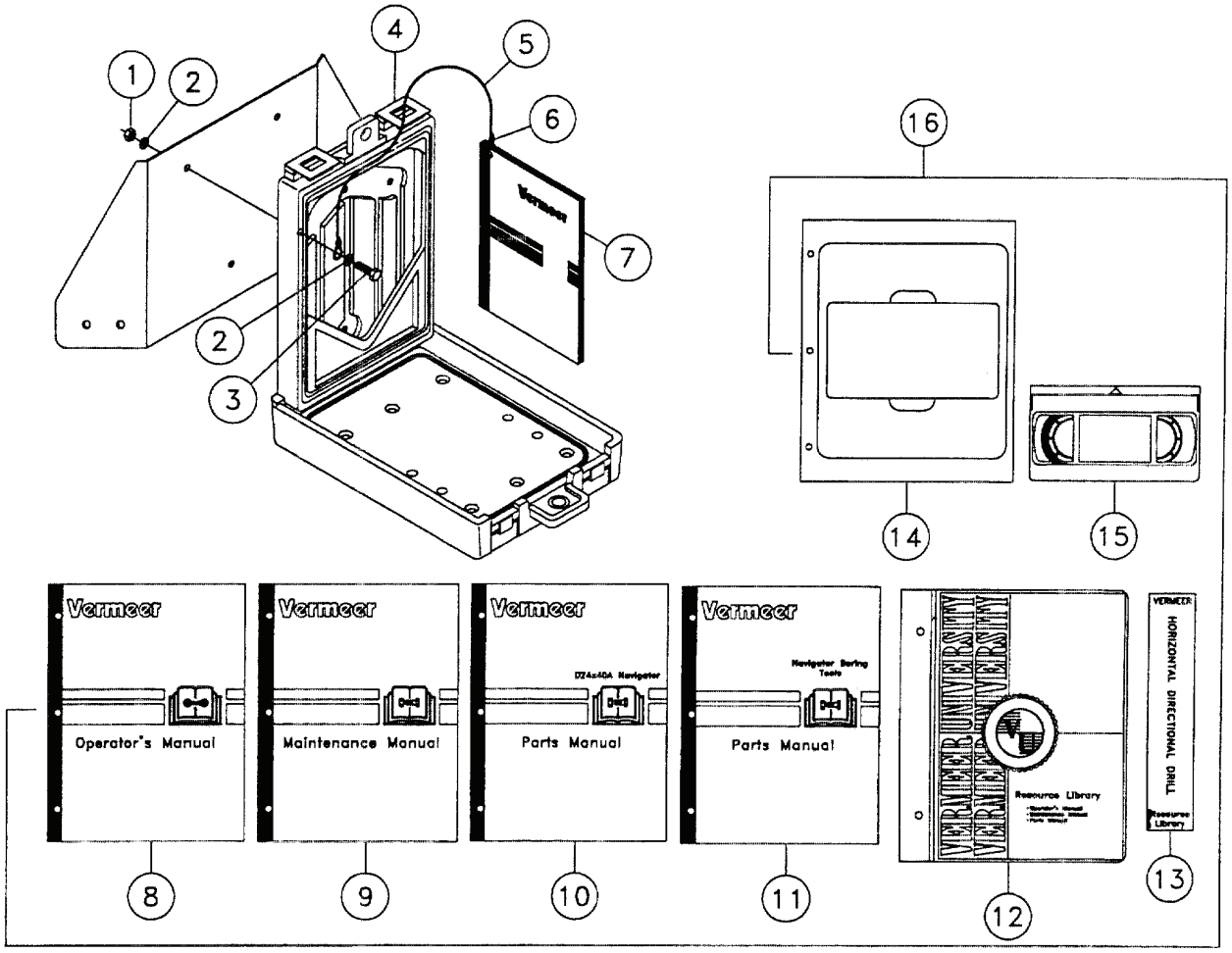


Literature Box Assy (S/N 642 -) Fig 8-13r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		235732001	NUT-1/4-20 GR8 ZINC PLTD	3	
2		235716001	WASHER-1/4 SAE HARD ZINC PLTD	6	
3		235734001	BOLT-1/4-20X3/4 GR8 ZINC PLTD	3	
4		142410001	CASE-6”X9 XCX X1” OPERATOR MANUAL	1	
5		142954001	CABLE-.068 DIA.NYLON CT.-36.00	1	
6		142423001	CRIMP-CABLE (FOR .068DIA.CABLE)	2	
7	*	296263846	MANUAL ASSY-D24X40A OM MINI CABLED o4.00	1	
8	*	105400U41	OM-D24X40A o4.00	1	
9	*	105400U43	MM-D24X40A o3.00	1	
10		105400Q20	PM-D24X40A 2ND	1	
11	*	105400T09	PM - NAVIGATOR BORING TOOLS p4.00	1	
12		144144001	NOTEBOOK BINDER - 2”-3 XCX	1	
13		7000B222	DECAL -HORIZONTAL DRILL - RESOURCE LIB.	1	
14		144145001	VHS - HOLDER	1	
15	*	251803001	VIDEO - DRILL ROD OPERATION AND MAINTENANCE	1	Specify VHS
	*	296264887	VIDEO-OPERATIONS/SAFETY HDD&TRKNG EQUIP	1	
	*	296264888	VIDEO - REMOTE LOCKOUT	1	
16	*	151815001	VHS HOLDER DOUBLE	1	
17	*	105400T90	HDD OPERATIONS & SAFETY VIDEO GUIDEBOOK	1	
18	*	2326940	DECAL-NOTICE TO OWNERS	1	

Literature Box Assy (S/N 642 -) Fig 8-13r02

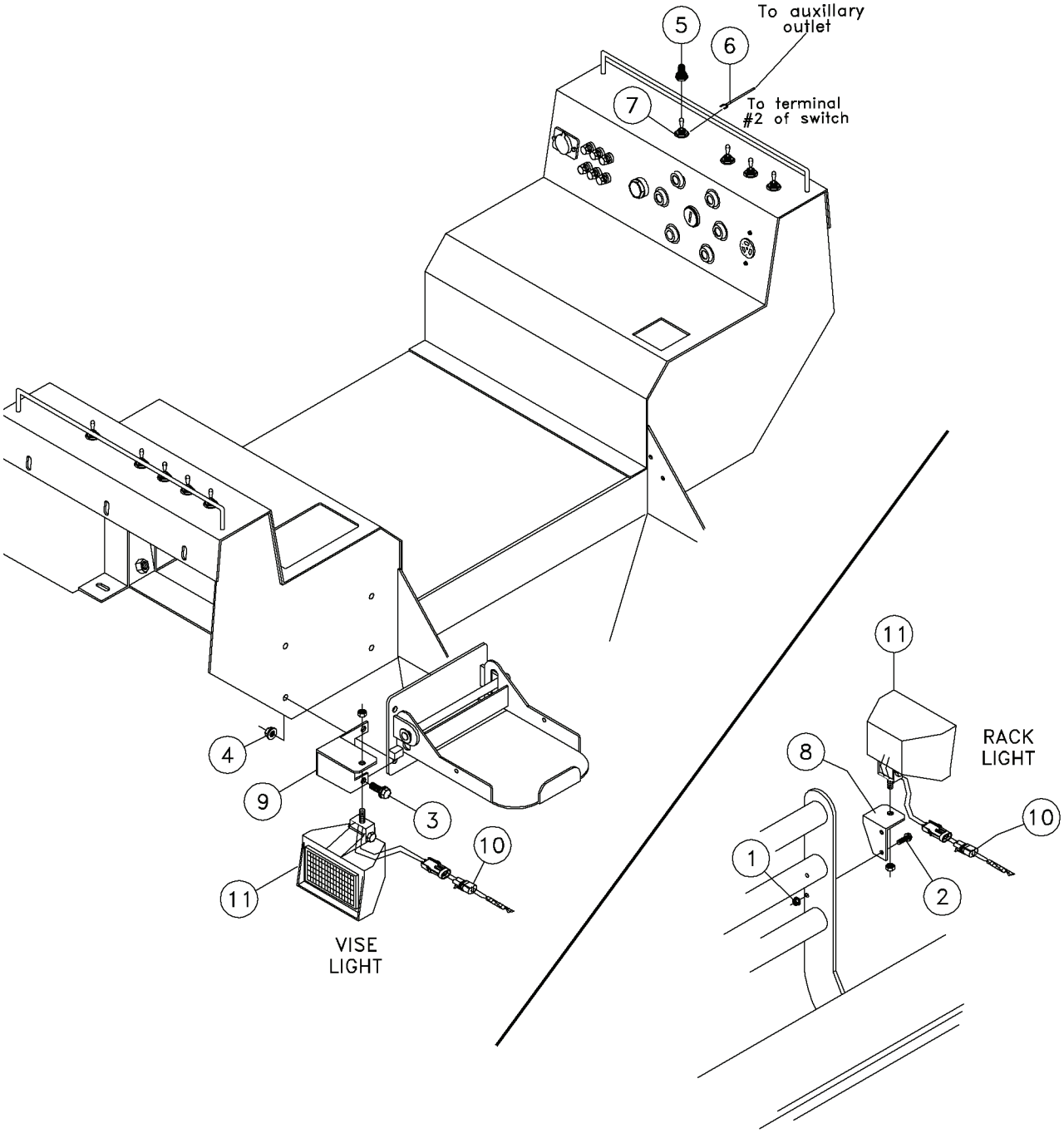
Revised November1999 due to update
in parts list. Starting w/ Serial No. 642.
Added parts marked with *.



Literature Box Assy (S/N 642 -) Fig 8-13r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Parts List
1		235732001	NUT-1/4-20 GR8 ZINC PLTD	3	
2		235716001	WASHER-1/4 SAE HARD ZINC PLTD	6	
3		235734001	BOLT-1/4-20X3/4 GR8 ZINC PLTD	3	
4		142410001	CASE-6”X9 XCX X1” OPERATOR MANUAL	1	
5		142954001	CABLE-.068 DIA.NYLON CT.-36.00	1	
6		142423001	CRIMP-CABLE (FOR .068DIA.CABLE)	2	
7		280529001	MANUAL ASSY -D24X40A (OM0 (EN) 2ND	1	
8		105400R24	OM -D24X40A (EN0 2ND	1	
9		105400R26	MM - D24X40A (EN) 2ND	1	
10		105400Q20	PM-D24X40A 2ND	1	
11	*	105400M37	NAVIGATOR BORING TOOLS P.M.	1	
12	*	144144001	NOTEBOOK BINDER - 2”-3 XCX	1	
13	*	7000B222	DECAL -HORIZONTAL DRILL - RESOURCE LIB.	1	
14	*	144145001	VHS - HOLDER	1	
15	*	251803001	VIDEO - DRILL ROD OPERATION AND MAINTENANCE	1	
16	*	280542001	D24X40A Resource Library Assy	1	Inc Ref No’s 8 & 15

Work Light Assy Fig 8-14r02

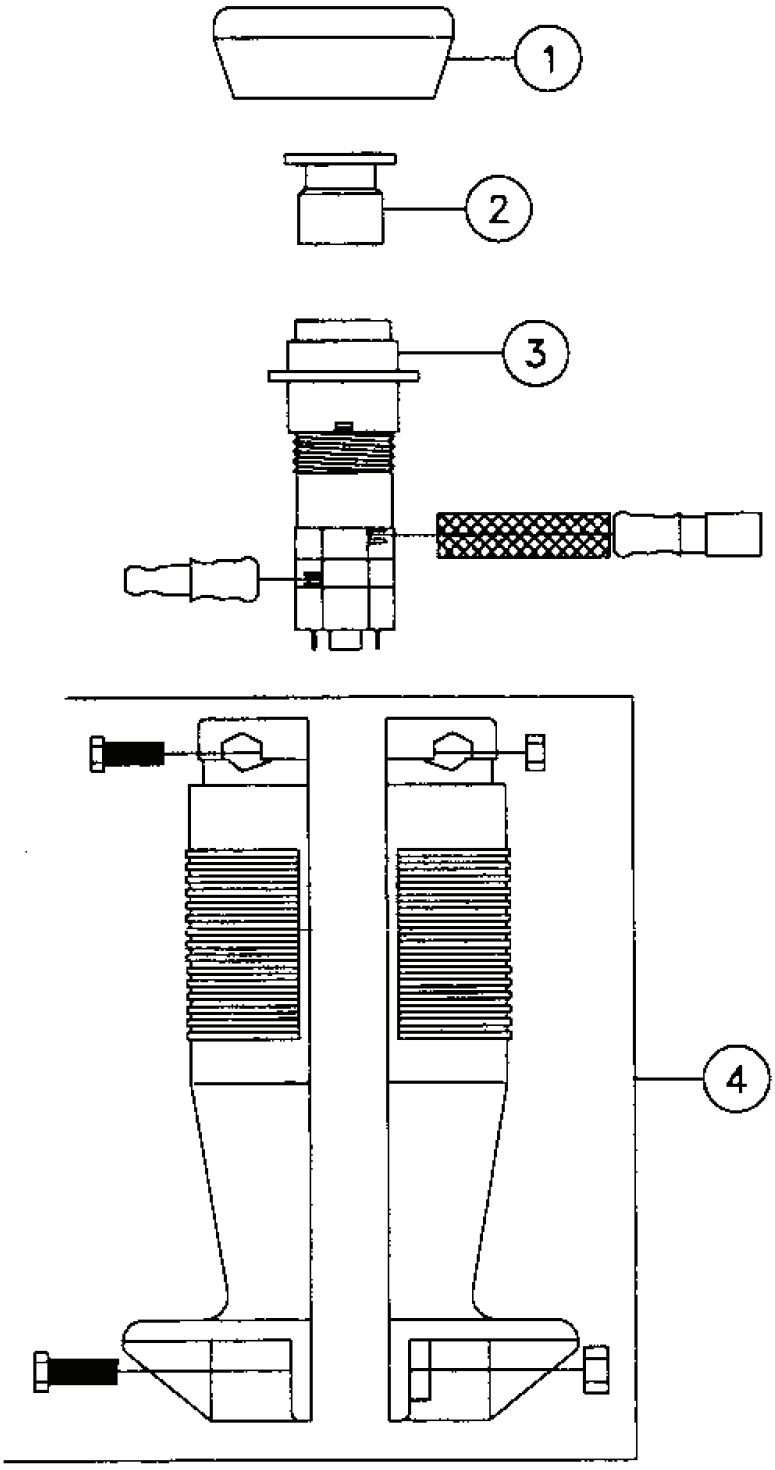


Work Light Assy Fig 8-14r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration.
1		405001	NUT-1/4 NC FLG WHIZ LOCK	2	
2		4473006	BOLT-1/4-20 X 3/4 FLG WHIZ	2	
3		4475010	BOLT-3/8-16 X 1 FLG WHIZ	2	
4		4536001	NUT-3/8-16 FLG WHIZ LOCK	2	
5		5537001	COVER-TOGGLE SWITCH	1	
6		66482001	TERMINAL JUMPER CURTIS 247-A20	1	
7		67293001	SWITCH-TOGGLE	1	
8		245003001	BRACKET RACK LIGHT	1	
9		245004001	BRACKET VISE LIGHT	1	
10		245005001	WIRE ASSY-D24 X 40A JUMPER	2	
11		245006001	ASSEMBLY -3 X 5 FLOOD LIGHT	2	

Control Lever Assy (Thrust/Pullback) Fig 8-15

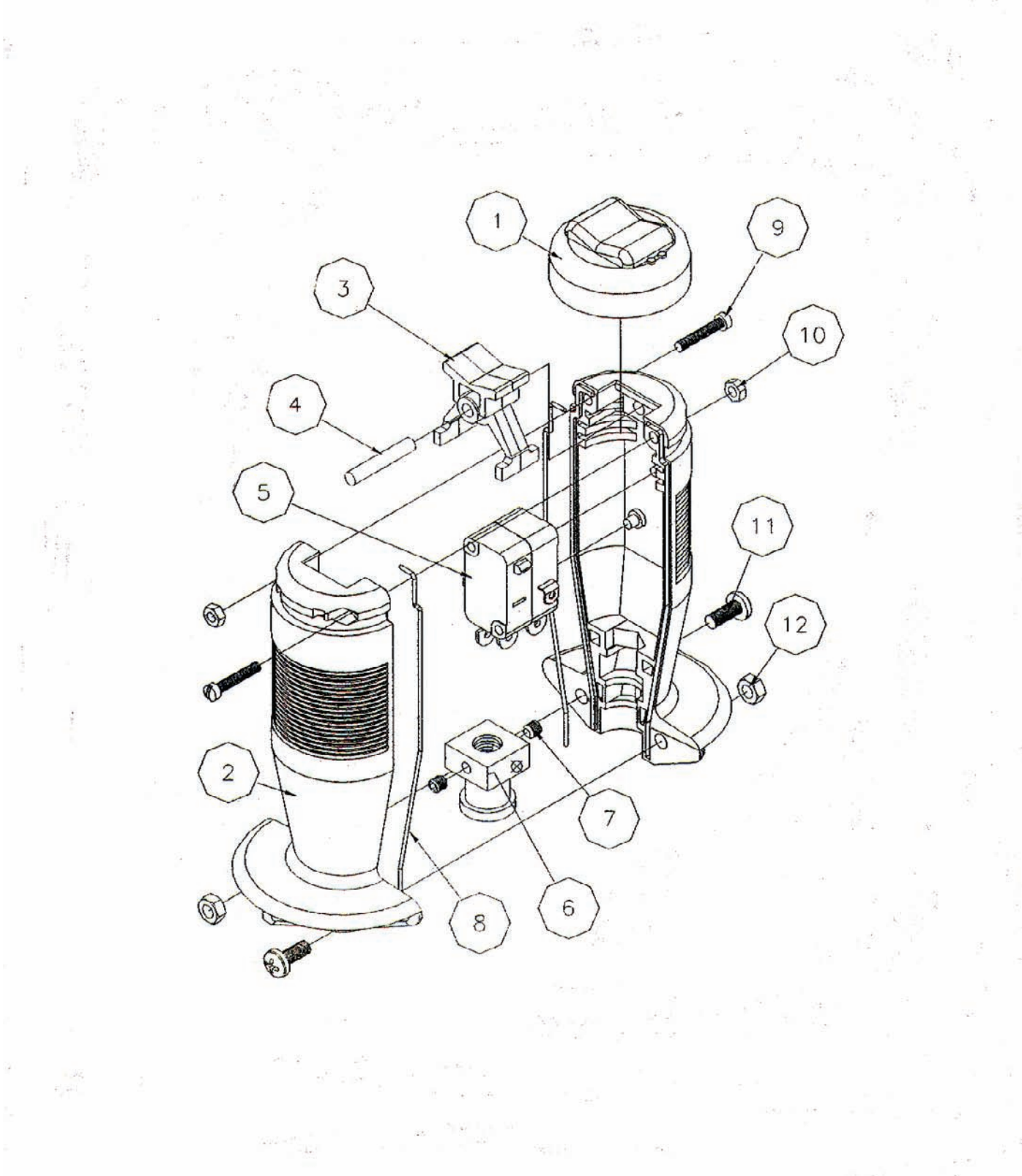
Revised February 1999 due to
addition of figure to manual.



Control Lever Assy (Thrust/Pullback) Fig 8-15

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Addition To Manual
1		216780009	BOOT-RUBBER (RED)	1	
2		216780007	ACTUATOR-BLACK SWITCH	1	
3		228405001	SWITCH-ASSEMBLY	1	
4		228406001	HANDLE-ASSY CONTROL	1	

Control Lever Assy (Rotation) Fig 8-16r01

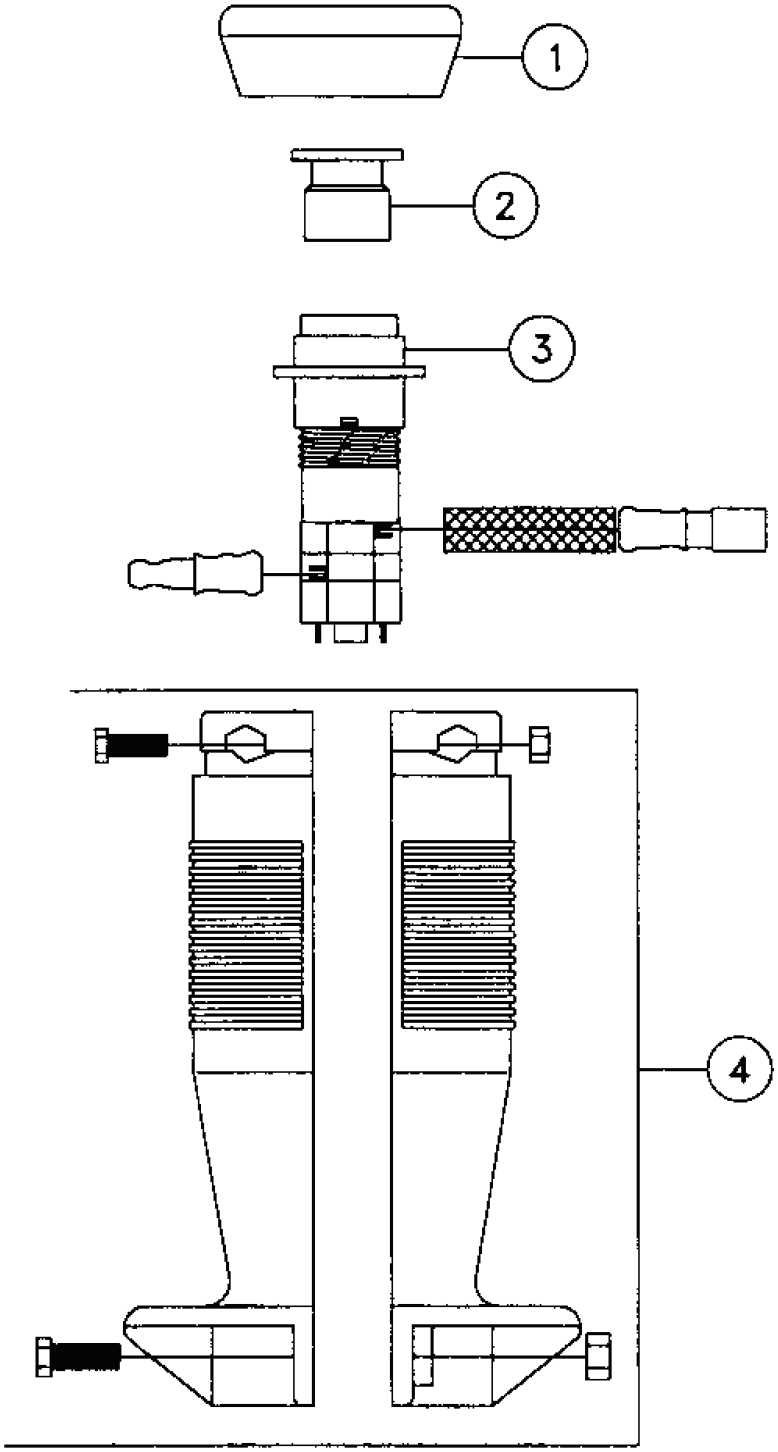


Control Lever Assy (Rotation) Fig 8-16r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	April, 2004		Update In Illustration & Parts List.
1		103762003	BOOT-ROCKER SWITCH	1	
2		251517005	HANDLE - PLASTIC (HALF)	2	
3		296271071	ROCKER	1	
4		251517003	PIN - PIVOT	1	
5		296271072	MICROSWITCH	1	
6		296271073	8mm COUPLING	1	
7		296271074	SET SCREW	2	
8		296271075	GASKET	2	
9		251517007	SCREW - ME X 16MM	2	
10		251517009	NUT - M3	2	
11		251517011	SCREW - M4 X 10MM	2	
12		251517013	NUT - M4	2	

Control Lever Assy (Rotation) Fig 8-16

Revised February 1999 due to
addition of figure to manual.

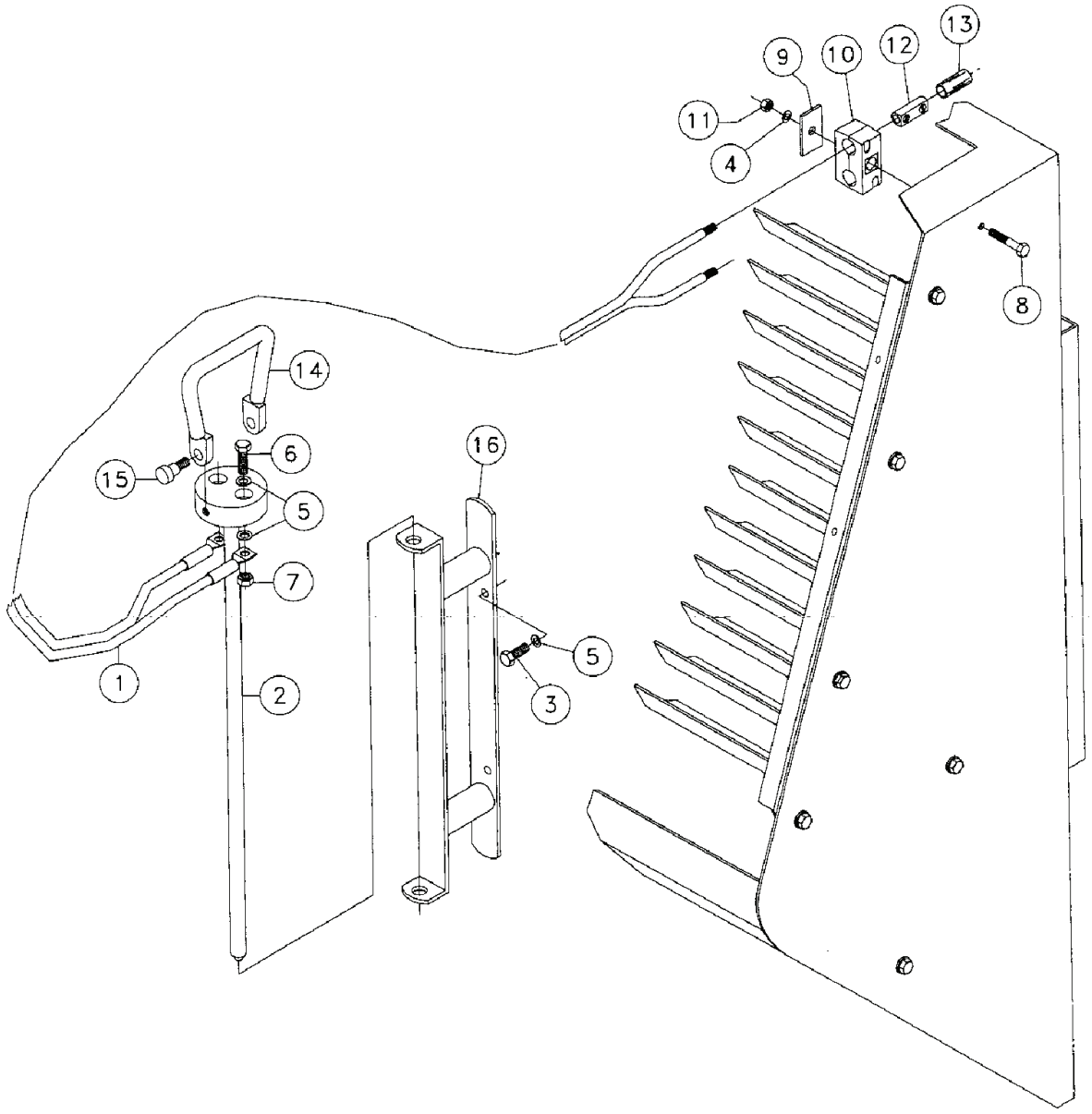


Control Lever Assy (Rotation) Fig 8-16

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Addition To Manual
1		216780009	BOOT-RUBBER (RED)	1	
2		216780007	ACTUATOR-BLACK SWITCH	1	
3		228408001	SWITCH-ASSEMBLY	1	
4		228407001	HANDLE-ASSY CONTROL	1	

Voltage Stake Assy Fig 9-1r01

Revised August 1999 due to update
in parts list. Changed parts marked with *.



Voltage Stake Assy Fig 9-1r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	August, 1999		Update In Parts List
1	*	282078001	CABLE - 6/2GA - 23 FT W/ LUGS	1	
2		234167001	STAKE-VOLTAGE	1	
3	*	235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	2	
4	*	235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	
5	*	235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	4	
6		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	1	
7		235725001	NUT-3/8-16 GR8 ZINC PLTD	1	
8		248030001	BOLT-5/16-18X1 3/4 GR 8 ZINC PL	1	
9		67846003	PLATE-TWIN COVER	1	
10		900035005	CLAMP-3/8”DOUBLE HOSE	2	
11		235741001	NUT-5/16-18 GR8 ZINC PLTD	1	
12		904355001	CONNECTOR	2	
13		208065001	SHRINK TUBE-3/4ID COMMERCL GRD	A/R	P/N Qty Of 1 = 1 Foot
14		234164001	HANDLE-VOLTAGE STAKE	1	
15		240056001	SCREW-1/2-13X1/2 NCSOC HD ZNC	2	
16		240791001	BRACKET-VOLTAGE STAKE	1	

Ground Stake Assy Fig 9-2r01

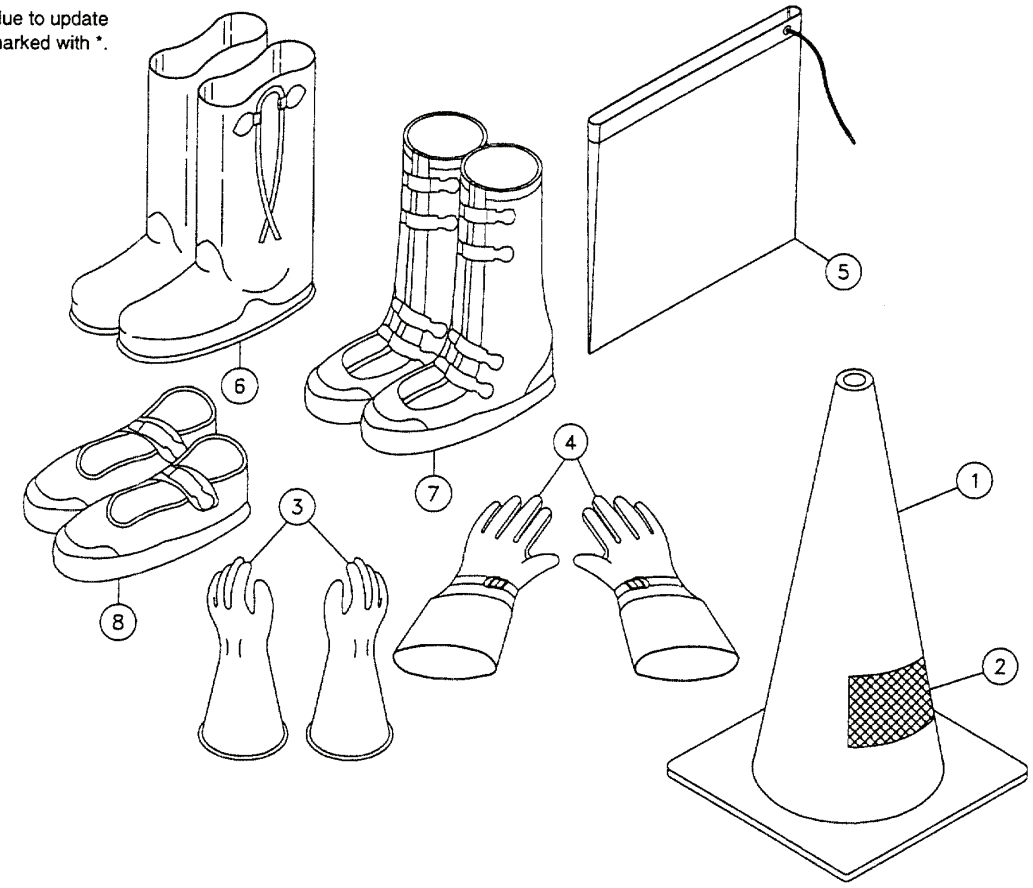
Revised February 1999 due to elimination of figure from manual.

Ground Stake Assy Fig 9-2r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Deleted From Manual

Safety Features - Gloves, Boots, Cones Fig 9-3r01

Revised November 1999 due to update in parts list. Added parts marked with *.

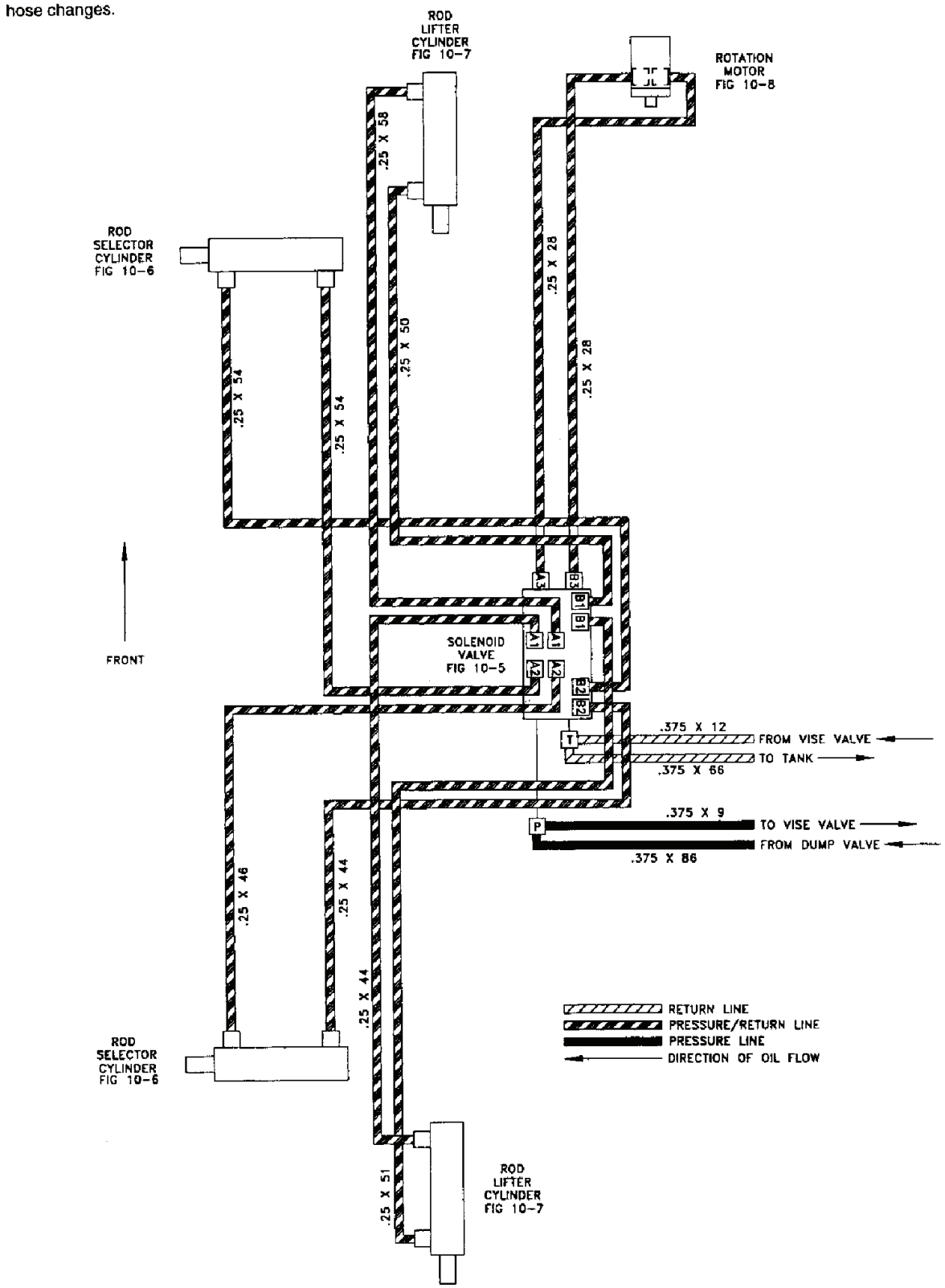


Safety Features - Gloves, Boots, Cones Fig 9-3r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Parts List.
1		904541001	CONES-ORANGE PVC	4	
2		70000530	DECAL-DANGER	4	
		70001530	DECAL-DANGER	4	International
3		210782001	GLOVES-SIZE 9 RUBBER INSULATE	1	P/N Qty Of 1 = 1 Pair
		210782005	GLOVES-SIZE 9 1/2 RUBBER INSUL	1	P/N Qty Of 1 = 1 Pair
		210782003	GLOVES-SIZE 10 RUBBER INSULATE	1	P/N Qty Of 1 = 1 Pair
		210782007	GLOVE-SIZE 11 RUBBER INSULATED	1	P/N Qty Of 1 = 1 Pair
		210782009	GLOVE-SIZE 12 RUBBER INSULATED	1	P/N Qty Of 1 = 1 Pair
4		210783001	GLOVES-SIZE 9 LEATHER PROTECT	1	P/N Qty Of 1 = 1 Pair
		21078005	GLOVES SIZE 9 1/2 LEATHER PROT	1	P/N Qty Of 1 = 1 Pair
		210783003	GLOVES-SIZE 10 LEATHER PROTECT	1	P/N Qty Of 1 = 1 Pair
		210783007	GLOVE-SIZE 11 LEATHER PROTECT	1	P/N Qty Of 1 = 1 Pair
		210783009	GLOVE-SIZE 12 LEATHER PROTECT	1	P/N Qty Of 1 = 1 Pair
		210781001	GLOVE KIT-SIZE 9	1	Incudes 1 Pair Of Rubber Gloves, 1 Pair Of Leather Gloves & 1 Glove Bag Ref 5
		224979001	GLOVE KIT-SIZE 9 1/2	1	Incudes 1 Pair Of Rubber Gloves, 1 Pair Of Leather Gloves & 1 Glove Bag Ref 5
		210785001	GLOVE KIT-SIZE 10	1	Incudes 1 Pair Of Rubber Gloves, 1 Pair Of Leather Gloves & 1 Glove Bag Ref 5
		224990001	GLOVE KIT-SIZE 11	1	Incudes 1 Pair Of Rubber Gloves, 1 Pair Of Leather Gloves & 1 Glove Bag Ref 5
		224991001	GLOVE KIT-SIZE 12	1	Incudes 1 Pair Of Rubber Gloves, 1 Pair Of Leather Gloves & 1 Glove Bag Ref 5
5		210784001	BAG-GLOVE	1	
6		210780009	BOOTS-SIZE 9 OVER-THE-SHOE	1	P/N Qty Of 1 = 1 Pair
		210780001	BOOTS-SIZE 10 OVER-THE-SHOE	1	P/N Qty Of 1 = 1 Pair
		210780003	BOOTS-SIZE 11 OVER-THE-SHOE	1	P/N Qty Of 1 = 1 Pair
		210780005	BOOTS-SIZE 12 OVER-THE-SHOE	1	P/N Qty Of 1 = 1 Pair
		210780007	BOOTS-SIZE 13 OVER-THE-SHOE	1	P/N Qty Of 1 = 1 Pair
		210780011	BOOTS-SIZE 14 OVER-THE-SHOE	1	P/N Qty Of 1 = 1 Pair
		210780013	BOOTS-SIZE 15 OVER-THE-SHOE	1	P/N Qty Of 1 = 1 Pair
7	*	279118001	BOOT-4 BUCKLE SIZE 9	1	P/N Qty Of 1 = 1 Pair
	*	279118002	BOOT-4 BUCKLE SIZE 10	1	P/N Qty Of 1 = 1 Pair
	*	279118003	BOOT-4 BUCKLE SIZE 11	1	P/N Qty Of 1 = 1 Pair
	*	279118004	BOOT-4 BUCKLE SIZE 12	1	P/N Qty Of 1 = 1 Pair
	*	279118005	BOOT-4 BUCKLE SIZE 13	1	P/N Qty Of 1 = 1 Pair
	*	279118006	BOOT-4 BUCKLE SIZE 14	1	P/N Qty Of 1 = 1 Pair
	*	279118007	BOOT-4 BUCKLE SIZE 15	1	P/N Qty Of 1 = 1 Pair
	*	279118008	BOOT-4 BUCKLE SIZE 16	1	P/N Qty Of 1 = 1 Pair
8		279119001	BOOT-ANKLE RUBBER SIZE 9	1	P/N Qty Of 1 = 1 Pair
	*	279119002	BOOT-ANKLE RUBBER SIZE 10	1	P/N Qty Of 1 = 1 Pair
	*	279119003	BOOT-ANKLE RUBBER SIZE 11	1	P/N Qty Of 1 = 1 Pair
	*	279119004	BOOT-ANKLE RUBBER SIZE 12	1	P/N Qty Of 1 = 1 Pair
	*	279119005	BOOT-ANKLE RUBBER SIZE 13	1	P/N Qty Of 1 = 1 Pair
	*	279119006	BOOT-ANKLE RUBBER SIZE 14	1	P/N Qty Of 1 = 1 Pair
	*	279119007	BOOT-ANKLE RUBBER SIZE 15	1	P/N Qty Of 1 = 1 Pair
	*	279119008	BOOT-ANKLE RUBBER SIZE 16	1	

Hyd Components Location Diagram - Rod Loader Fig 10-1r01

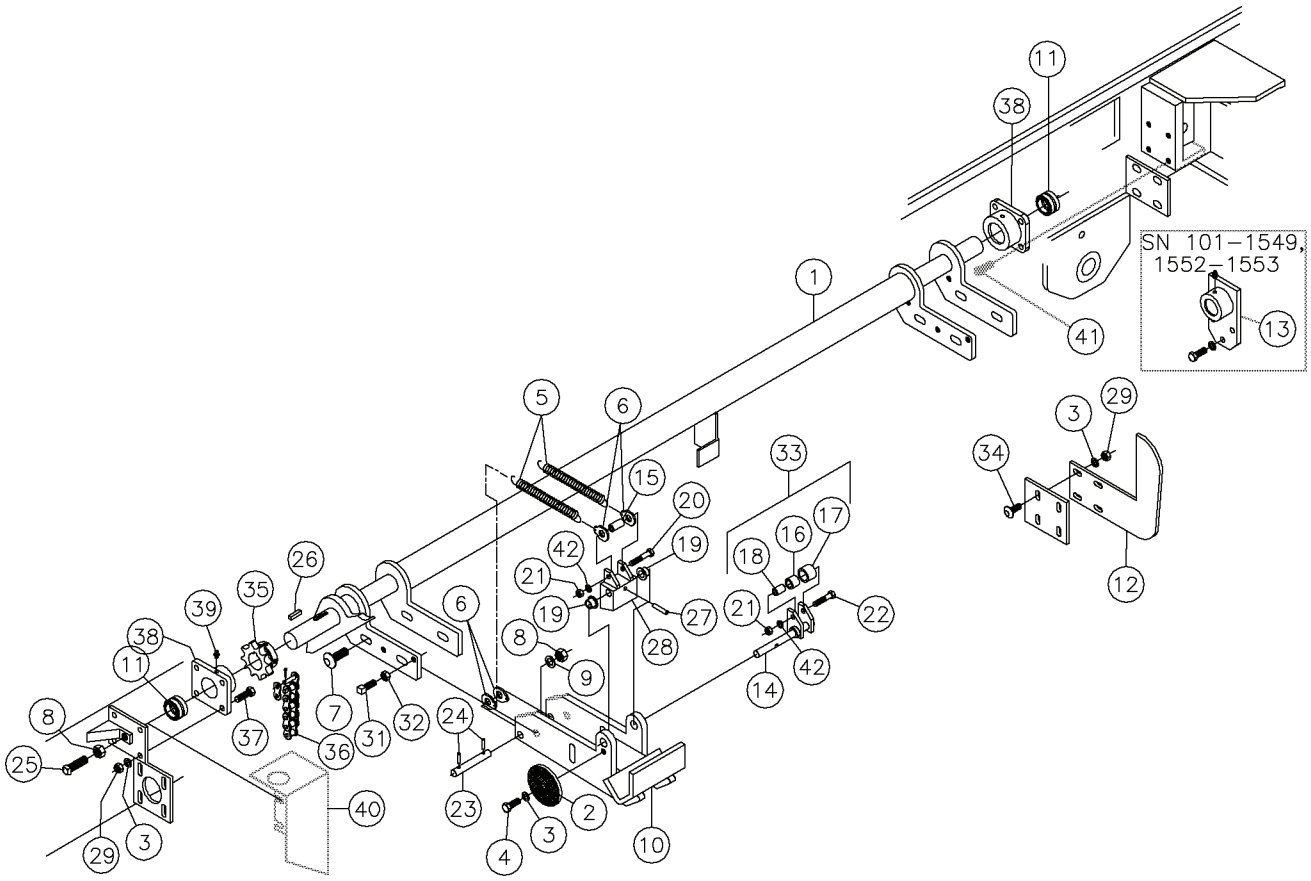
Revised February 1999 due to hose changes.



Hyd Components Location Diagram - Rod Loader Fig 10-1r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Due To Hose Changes

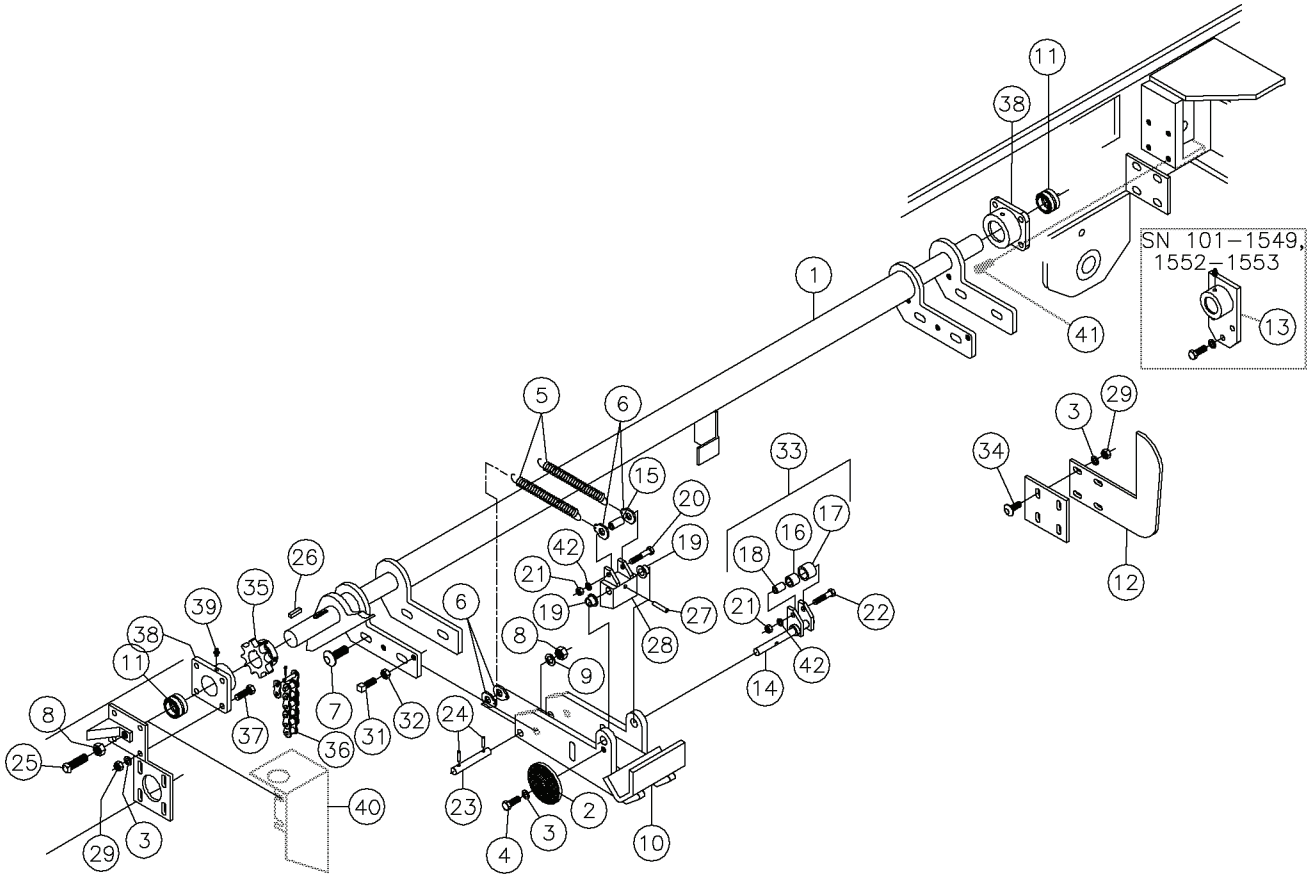
Pivot Arm Assy Fig 10-2r06



Pivot Arm Assy Fig 10-2r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2005		Correct Number
1		245050001	PIVOT-LOADER ARM	1	
2	*	230863001	DISK-HOLDER	2	
3		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	12	
4		235726001	BOLT-3/8-16X3/4 GR8 HEX ZNCPLT	2	
5		1789009	SPRING-EXTENSION 5”	4	
6		230960001	PLATE-WASHER TAB	8	
7		377014	BOLT-1/2-13 X 1 1/2”GD#5CARRIAGE	8	
8		235731001	NUT-1/2-13 GR8 ZINC PLTD	9	
9		485025	WASHER-1/2 FLAT-HARDENED-ZINC	8	
10		228145001	ARM-ROD LOADER	2	
11		279001001	BEARING - SPHERICAL	2	
12		225210001	PLATE-RELEASE	2	
13		250649001	PIVOT - ROD LOADER	1	S/N 101-1549,1552-1553
14		228146001	ROD-RELEASE ARM	2	
15		228148001	TUBE-ROUND SPRING ATTACH	2	
16		228152001	BRZ. BUSHING-.753X.503-.625	2	
17		228150001	TUBE-ARM ROLLER	2	
18		228151001	TUBE-ROLLER ARM MOUNT	2	
19		230999001	BRZ. BUSHING-.627 X .502 - .50	4	
20		238211001	BOLT-5/16-18 X 2 GR8 HEX ZINC YC	2	
21		235741001	NUT-5/16-18 GR8 ZINC PLTD	4	
22		248030001	BOLT-5/16-18 X 1 3/4 GR8 ZINC PL	2	
23		228153001	BAR-SPRING ATTACHMENT	2	
24		1978011	PIN-ROLL 3/16 X 1	4	
25		550014	SQ HSS-1/2-13 X 1 1/2	1	
26		578001	HKEYS-1/4 X 1/4 X 1	1	
27		1788023	PIN-EXPASION 1/4 X 1 1/4	2	
28		228147001	BAR-SPRING LOCK	2	
29		235725001	NUT-3/8-16 GR8 ZINC PLTD	8	
30		248029001	BOLT-5/16-18 X 2 1/2 GR8 ZINC PL	3	
31		23520001	SQ HSS -3/8-16 X 1 CUP PI (ZINC)	4	
32		413001	NUT-3/8 NC HEX JAM	4	
33		240770001	ROD RELEASE ROLLER ASSY	2	
34		375010	BOLT-3/8”-16 X 1”GD#5 CARRIAGE	8	
35		245040001	SPROCKET-ROD LOADER	1	
36		245072001	CHAIN-ROD LOADER (3/4”P, 22 PIT	1	
36		1773005	CONN. LINK -60-1 SF PKGD		
36		1769005	ROLLER LINK - 60-1 PKGD		
36		1770005	OFFSET LINK - 60-1 PKGD		
37		235723001	BOLT-3/8”-16 X 1 1/2” GR 8 HEX ZINC	4	
38		250648001	PIVOT - ROD LOADER	2	
39		598001	FITTING-1/4” NF ST GREASE ZERK	2	
40		279010001	PLATE - GUARD LOADER MOTOR	1	
41		601696010	SOCKET HD CAP SCREW 3/8-16X1 Z	3	
42		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	

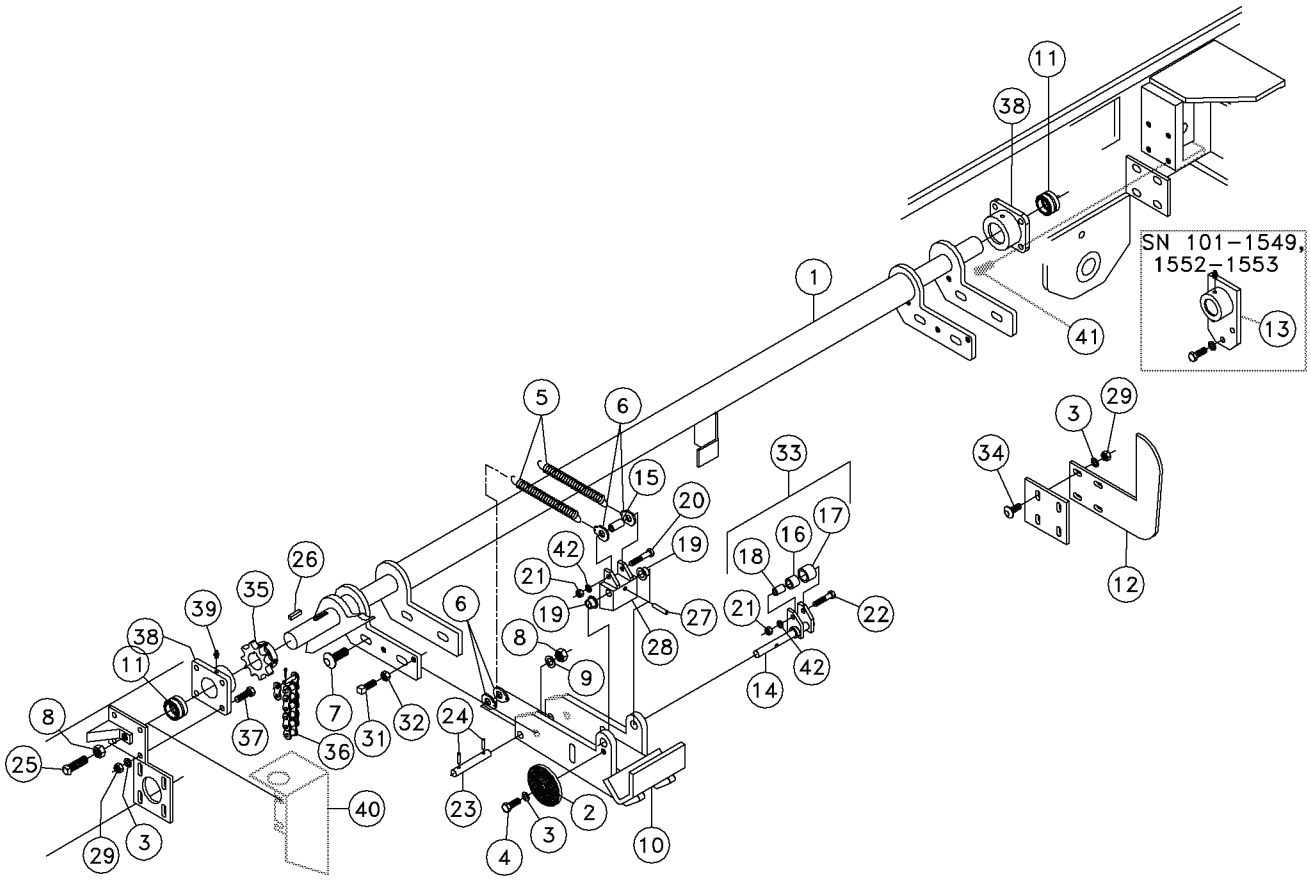
Pivot Arm Assy Fig 10-2r05



Pivot Arm Assy Fig 10-2r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2005		Update In Parts List.
1		245050001	PIVOT-LOADER ARM	1	
2		230963001	DISK-HOLDER	2	
3		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	12	
4		235726001	BOLT-3/8-16X3/4 GR8 HEX ZNCPLT	2	
5		1789009	SPRING-EXTENSION 5”	4	
6		230960001	PLATE-WASHER TAB	8	
7		377014	BOLT-1/2-13 X 1 1/2”GD#5CARRIAGE	8	
8		235731001	NUT-1/2-13 GR8 ZINC PLTD	9	
9		485025	WASHER-1/2 FLAT-HARDENED-ZINC	8	
10		228145001	ARM-ROD LOADER	2	
11		279001001	BEARING - SPHERICAL	2	
12		225210001	PLATE-RELEASE	2	
13		250649001	PIVOT - ROD LOADER	1	S/N 101-1549,1552-1553
14		228146001	ROD-RELEASE ARM	2	
15		228148001	TUBE-ROUND SPRING ATTACH	2	
16		228152001	BRZ. BUSHING-.753X.503-.625	2	
17		228150001	TUBE-ARM ROLLER	2	
18		228151001	TUBE-ROLLER ARM MOUNT	2	
19		230999001	BRZ. BUSHING-.627 X .502 - .50	4	
20		238211001	BOLT-5/16-18 X 2 GR8 HEX ZINC YC	2	
21		235741001	NUT-5/16-18 GR8 ZINC PLTD	4	
22		248030001	BOLT-5/16-18 X 1 3/4 GR8 ZINC PL	2	
23		228153001	BAR-SPRING ATTACHMENT	2	
24		1978011	PIN-ROLL 3/16 X 1	4	
25		550014	SQ HSS-1/2-13 X 1 1/2	1	
26		578001	HKEYS-1/4 X 1/4 X 1	1	
27		1788023	PIN-EXPASION 1/4 X 1 1/4	2	
28		228147001	BAR-SPRING LOCK	2	
29		235725001	NUT-3/8-16 GR8 ZINC PLTD	8	
30		248029001	BOLT-5/16-18 X 2 1/2 GR8 ZINC PL	3	
31		23520001	SQ HSS -3/8-16 X 1 CUP PI (ZINC)	4	
32		413001	NUT-3/8 NC HEX JAM	4	
33		240770001	ROD RELEASE ROLLER ASSY	2	
34		375010	BOLT-3/8”-16 X 1”GD#5 CARRIAGE	8	
35		245040001	SPROCKET-ROD LOADER	1	
36		245072001	CHAIN-ROD LOADER (3/4”P, 22 PIT	1	
36		1773005	CONN. LINK -60-1 SF PKGD		
36		1769005	ROLLER LINK - 60-1 PKGD		
36		1770005	OFFSET LINK - 60-1 PKGD		
37		235723001	BOLT-3/8”-16 X 1 1/2” GR 8 HEX ZINC	4	
38		250648001	PIVOT - ROD LOADER	2	
39		598001	FITTING-1/4” NF ST GREASE ZERK	2	
40		279010001	PLATE - GUARD LOADER MOTOR	1	
41		601696010	SOCKET HD CAP SCREW 3/8-16X1 Z	3	
42	*	235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	

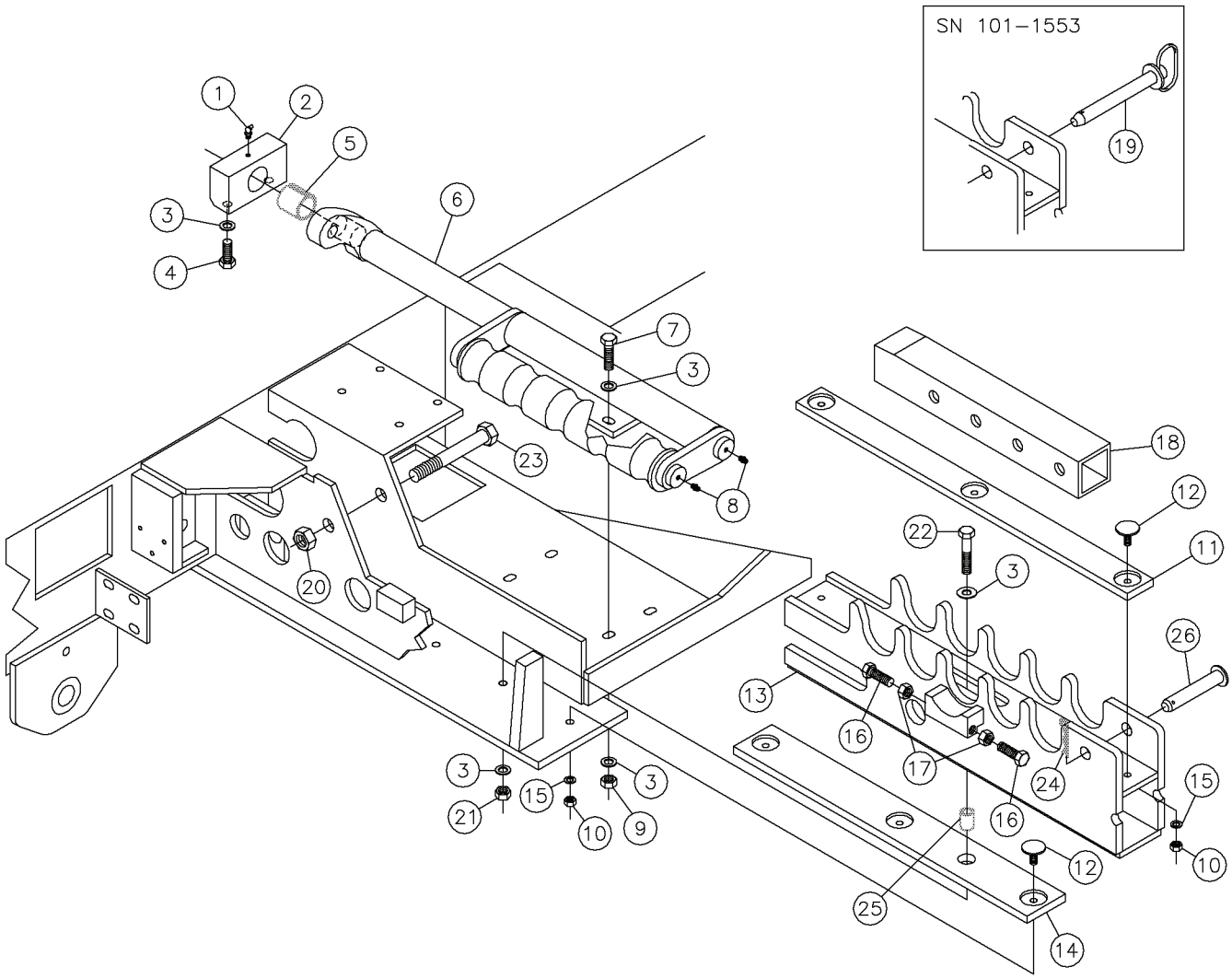
Pivot Arm Assy Fig 10-2r04



Pivot Arm Assy Fig 10-2r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List.
1		245050001	PIVOT-LOADER ARM	1	
2		230963001	DISK-HOLDER	2	
3		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	12	
4		235726001	BOLT-3/8-16X3/4 GR8 HEX ZNCPLT	2	
5		1789009	SPRING-EXTENSION 5”	4	
6		230960001	PLATE-WASHER TAB	8	
7		377014	BOLT-1/2-13 X 1 1/2”GD#5CARRIAGE	8	
8		235731001	NUT-1/2-13 GR8 ZINC PLTD	9	
9		485025	WASHER-1/2 FLAT-HARDENED-ZINC	8	
10		228145001	ARM-ROD LOADER	2	
11		279001001	BEARING - SPHERICAL	2	
12		225210001	PLATE-RELEASE	2	
13		250649001	PIVOT - ROD LOADER	1	S/N 101-1549,1552-1553, Inc. Ref. #11
14		228146001	ROD-RELEASE ARM	2	
15		228148001	TUBE-ROUND SPRING ATTACH	2	
16		228152001	BRZ. BUSHING-.753X.503-.625	2	
17		228150001	TUBE-ARM ROLLER	2	
18		228151001	TUBE-ROLLER ARM MOUNT	2	
19		230999001	BRZ. BUSHING-.627 X .502 - .50	4	
20		238211001	BOLT-5/16-18 X 2 GR8 HEX ZINC YC	2	
21		235741001	NUT-5/16-18 GR8 ZINC PLTD	4	
22		248030001	BOLT-5/16-18 X 1 3/4 GR8 ZINC PL	2	
23		228153001	BAR-SPRING ATTACHMENT	2	
24		1978011	PIN-ROLL 3/16 X 1	4	
25		550014	SQ HSS-1/2-13 X 1 1/2	1	
26		578001	HKEYS-1/4 X 1/4 X 1	1	
27		1788023	PIN-EXPASION 1/4 X 1 1/4	2	
28		228147001	BAR-SPRING LOCK	2	
29		235725001	NUT-3/8-16 GR8 ZINC PLTD	8	
30		248029001	BOLT-5/16-18 X 2 1/2 GR8 ZINC PL	3	
31		23520001	SQ HSS -3/8-16 X 1 CUP PI (ZINC)	4	
32		413001	NUT-3/8 NC HEX JAM	4	
33		240770001	ROD RELEASE ROLLER ASSY	2	
34		375010	BOLT-3/8”-16 X 1”GD#5 CARRIAGE	8	
35		245040001	SPROCKET-ROD LOADER	1	
36		245072001	CHAIN-ROD LOADER (3/4”P, 22 PIT	1	
36		1773005	CONN. LINK -60-1 SF PKGD		
36		1769005	ROLLER LINK - 60-1 PKGD		
36		1770005	OFFSET LINK - 60-1 PKGD		
37		235723001	BOLT-3/8”-16 X 1 1/2” GR 8 HEX ZINC	4	
38		250648001	PIVOT - ROD LOADER	2	
39		598001	FITTING-1/4” NF ST GREASE ZERK	2	
40		279010001	PLATE - GUARD LOADER MOTOR	1	
41		601696010	SOCKET HD CAP SCREW 3/8-16X1 Z	3	
42	*	235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	

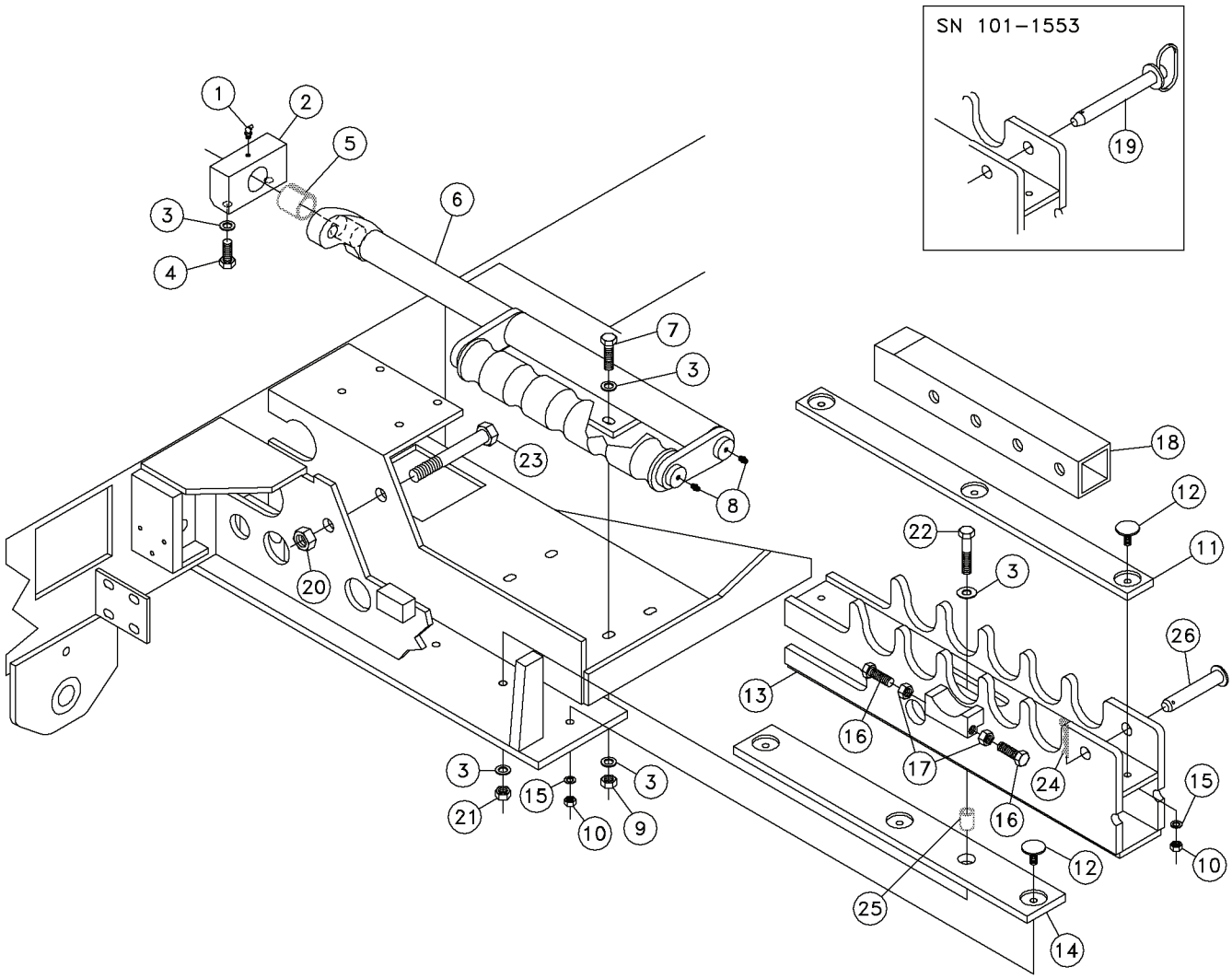
Rod Lift/Selector Assy Fig 10-3r04



Rod Lift/Selector Assy Fig 10-3r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1		596001	ZERK-1/4" NF 45 DEG GREASE	2	
2		236154003	BAR ASSEMBLY - PIVOT	1	Inc One Of Ref No's 1 & 5
3		485025	WASHER-1/2 FLAT-HARDENED-ZINC	24	Inc One Of Ref No's 1 & 5
4		235737001	BOLT-1/2-13X1 1/4 GR8 ZINC PLT	4	
5		1835085	BUSHING-STL.1 1/2X1 1/4-1 1/4	2	
6		236147003	LIFT ASSEMBLY- ROD LOADER	2	Inc Two Of Ref No 8
7		240334001	BOLT-1/2-13 X 1 3/4 GR8 ZINC PLT	8	
8		598001	ZERK-1/4" NF ST GREASE	4	
9		75382001	NU-1/2-UNC GRADE 8 SLTL	8	
10		15289001	NUT-3/8-16NC SLTL GRADE 8	12	
11		236193001	PLATE-PLASTIC SLIDE	2	
12		545014	3/8-16 X 11/2 ELEV BOLT SPECIAL	12	
13		236156001	SELECTOR-SLIDE	2	
14		236192001	BAR-PLASTIC SLIDE	2	
15		235713001	WASHER-3/8 SAE HARD ZINC PLTD	12	
16	*	235721001	BOLT-1/2-13X1 1/2 GR8 ZINC PLT	4	
17		235722001	NUT-1/2-13 GR8 JAM ZINC PLTD	4	
18		241524001	TUBE-SELECTOR	2	
19		2107001	HITCH PIN - 3/4" X 4 1/2"	2	S/N 101-1553
20		250510001	NUT 3/4 NC GR 8 HLTL Y/ZINC	2	
21		250512001	NUT-1/2 NC GR 8 TOP LOCK Y/ZINC	2	
22		250573001	BOLT-1/2-13 X 2 1/2 GR 8 HX Y/Z	2	
23		242884001	BOLT-3/4-10 X 5 1/2 GR 8 ZINC	2	
24		1794003	HAIR PIN COTTER 148 WIRE	2	
25		250655001	SPACER-TUBE	2	
26		282868001	PIN - SELECTOR	2	

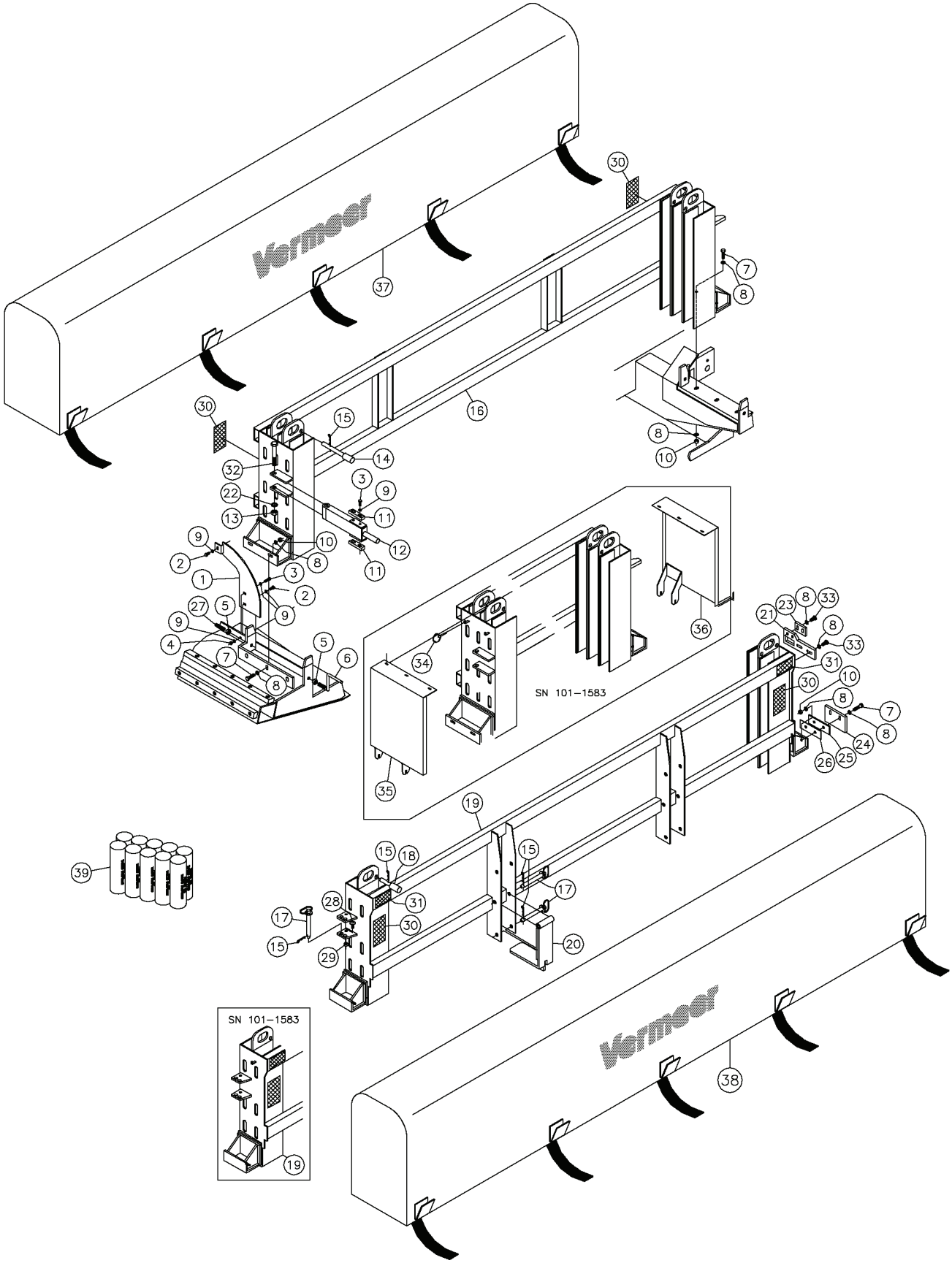
Rod Lift/Selector Assy Fig 10-3r03



Rod Lift/Selector Assy Fig 10-3r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		596001	ZERK-1/4" NF 45 DEG GREASE	2	
2		236154003	BAR ASSEMBLY - PIVOT	1	Inc One Of Ref No's 1 & 5
3		485025	WASHER-1/2 FLAT-HARDENED-ZINC	24	Inc One Of Ref No's 1 & 5
4		235737001	BOLT-1/2-13X1 1/4 GR8 ZINC PLT	4	
5		1835085	BUSHING-STL.1 1/2X1 1/4-1 1/4	2	
6		236147003	LIFT ASSEMBLY- ROD LOADER	2	Inc Two Of Ref No 8
7		240334001	BOLT-1/2-13 X 1 3/4 GR8 ZINC PLT	8	
8		598001	ZERK-1/4" NF ST GREASE	4	
9		75382001	NU-1/2-UNC GRADE 8 SLTL	8	
10		15289001	NUT-3/8-16NC SLTL GRADE 8	12	
11		236193001	PLATE-PLASTIC SLIDE	2	
12		545014	3/8-16 X 11/2 ELEV BOLT SPECIAL	12	
13		236156001	SELECTOR-SLIDE	2	
14		236192001	BAR-PLASTIC SLIDE	2	
15		235713001	WASHER-3/8 SAE HARD ZINC PLTD	12	
16		235731001	BOLT-1/2-13 X 1 1/2 GR 8 ZINC PLTD	4	
17		235722001	NUT-1/2-13 GR8 JAM ZINC PLTD	4	
18		241524001	TUBE-SELECTOR	2	
19		2107001	HITCH PIN - 3/4" X 4 1/2"	2	S/N 101-1553
20		250510001	NUT 3/4 NC GR 8 HLTL Y/ZINC	2	
21		250512001	NUT-1/2 NC GR 8 TOP LOCK Y/ZINC	2	
22		250573001	BOLT-1/2-13 X 2 1/2 GR 8 HX Y/Z	2	
23		242884001	BOLT-3/4-10 X 5 1/2 GR 8 ZINC	2	
24		1794003	HAIR PIN COTTER 148 WIRE	2	
25		250655001	SPACER-TUBE	2	
26	*	282868001	PIN - SELECTOR	2	

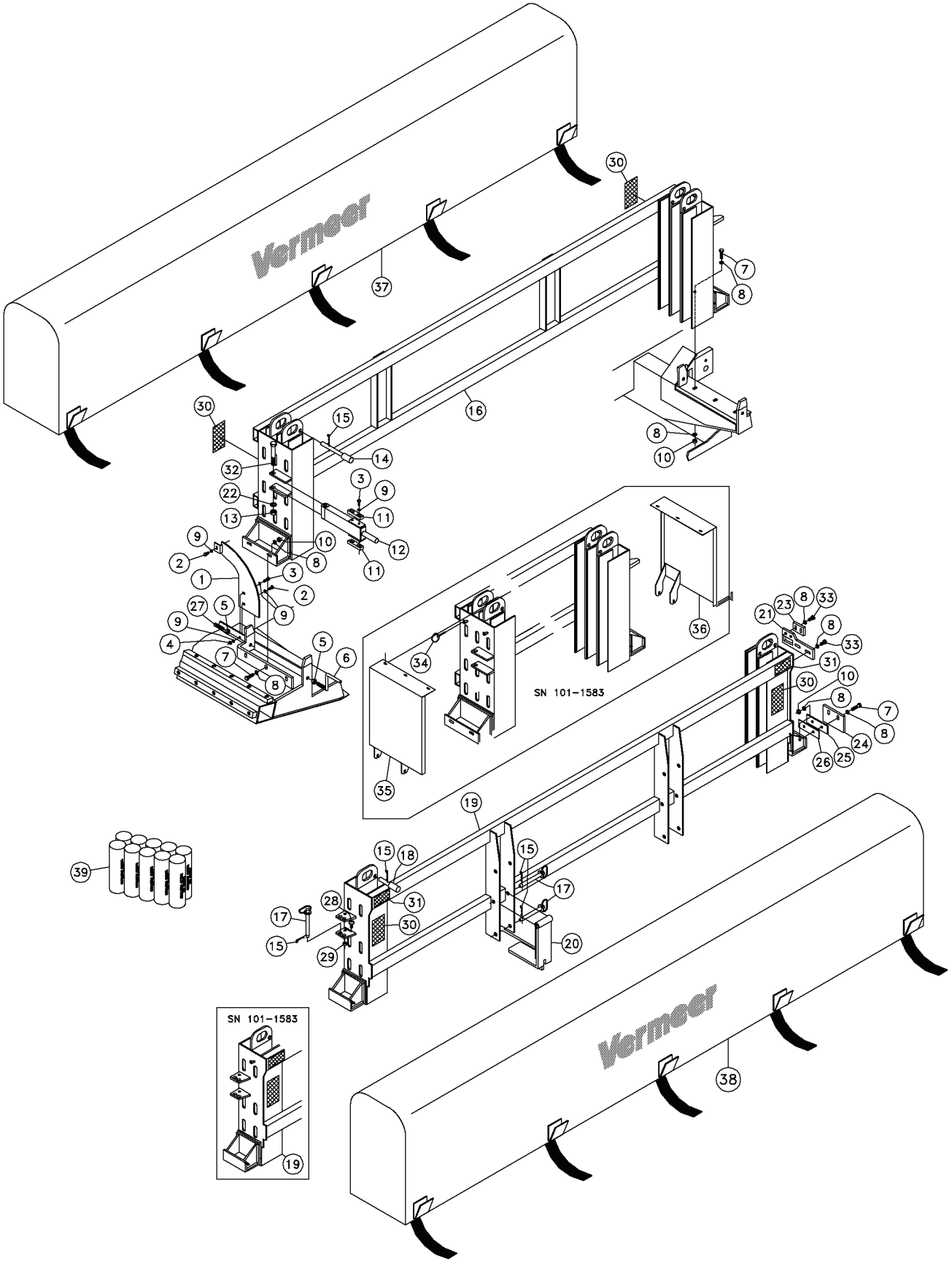
Rod Box Assy Fig 10-4r03



Rod Box Assy Fig 10-4r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		228066001	PLATE-GUIDE	1	
2		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	2	
3		235736001	BOLT-3/8-16 X 1 1/4 ZINC PLTD	5	
4		235725001	NUT-3/8-16 GR8 ZINC PLTD	1	
5		238248001	NUT-5/8 NC GR 8 HEX JAM ZINC	4	
6		236463001	BOLT-CRANK	2	
7		235718001	BOLT-1/2-13 X 2 GR8 HEX ZINC PLT	4	
8		485025	WASHER-1/2 FLAT-HARDENED-ZINC	12	
9		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	
10		235731001	NUT-1/2-13 GR8 ZINC PLTD	6	
11		236183001	BAR-LOCK	2	
12		236228001	BAR-ROD LOCK	1	
13		250510001	NUT 3/4 NC GR8 SLTL Y/ZINC	1	
14		236460001	PIN-ROD HOLDER	2	
15		1794003	HAIR PIN COTTER-.148 WIRE	9	
16		251270003	ROD BOX-3 ROW(251270001)	1	Inc Two Of Ref No 30
17		2107007	PIN-HITCH 3/4 X 6	5	
18		236462001	PIN-ROD HOLDER	2	
19		251278001	BOX ASSY-TWO ROW ROD(251269001)	1	Inc Two Of Ref No's 30 & 31
20		236120001	ARM-ROD KEEPER	2	
21		236189001	BAR-LOCK	1	
22		235717001	WASHER-3/4 SAE HARD ZINC PLTD	1	
23		236224001	BAR-LOCK	1	
24		236080001	BAR-STOP	1	
25		236081001	BAR-SPACER	1	
26		236225001	PLATE-SHIM	1	
27		231973020	SQ HSS-5/8-11 X 2 CUP PT(ZINC)	2	
28		377012	BOLT-1/2-13 X 1 1/4" GD#5 CARRIAGE	1	
29		235722001	NUT-1/2-13 GR8 JAM ZINC PLTD	1	
30		7000A627	DECAL-DANGER	4	
31		70000563	DECAL-WARNING (UND)	2	
32		240340001	BOLT-3/4-10 X 5 GR8 ZINC PLTD	1	
33		235729001	BOLT-1/2-13 X 1 GR8 HEX ZINC PLT	4	
34		1797003	PIN-QUICK ATTACHMENT LATCH 1/4"-"6M DIA"	6	S/N 101-1583
35		243232001	COVER ROD BOX END	1	S/N 101-1583
36		243233001	COVER ROD BOX END	1	S/N 101-1583
37	*	287667001	COVER - D24 X 40A / D24 X 26 ROD BOX - 5 ROW	1	
38	*	287683001	COVER - ROD BOX 2 ROW	1	
39		275927982	THRD CMPND - PLUSCO 135 - 10 PACK	1	
		275928982	THRD CMPND - PLUSCO 135 - 4/10 PACK	1	

Rod Box Assy Fig 10-4r02

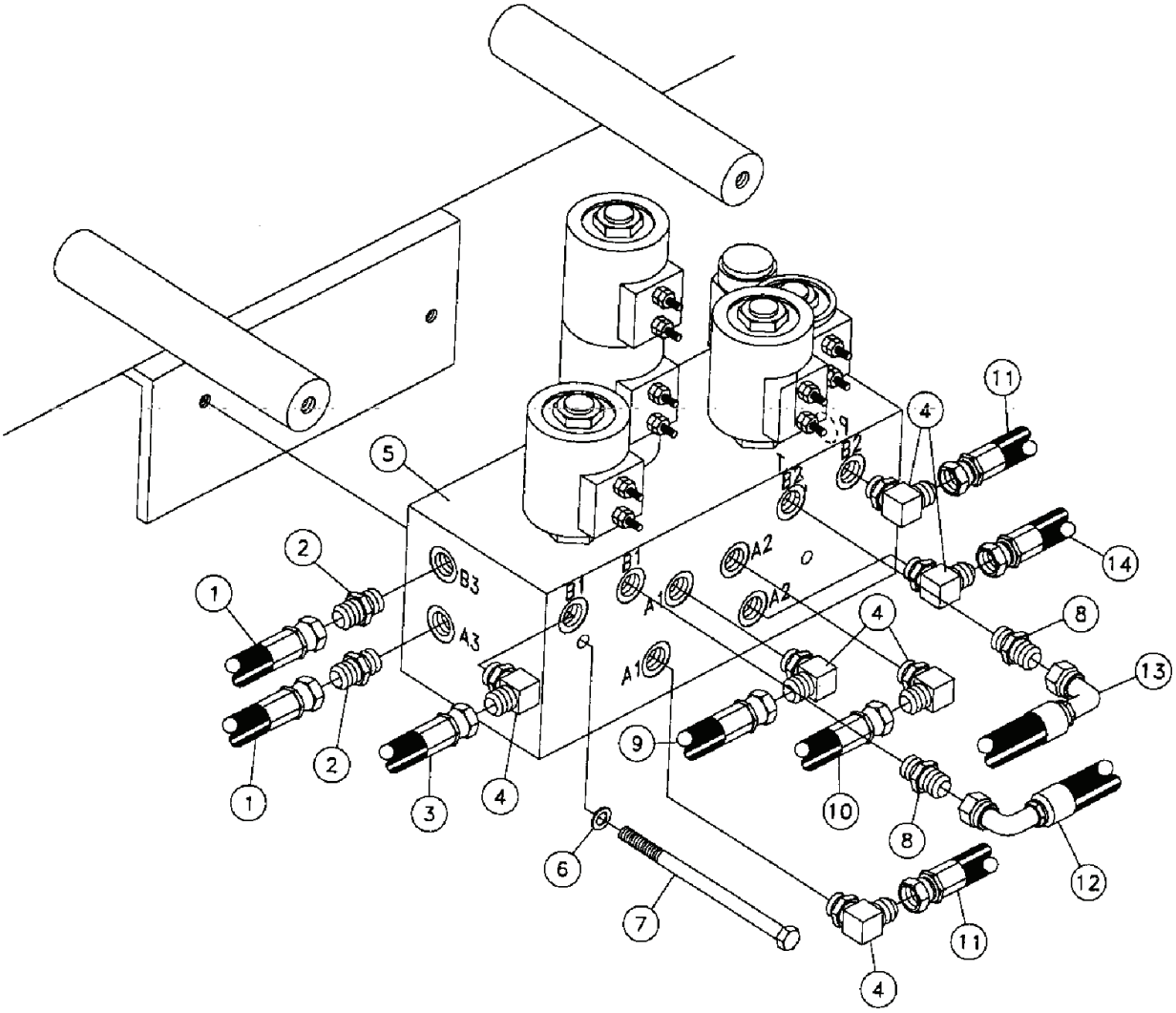


Rod Box Assy Fig 10-4r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		228066001	PLATE-GUIDE	1	
2		235726001	BOLT-3/8-16 X 3/4 GR8 HEX ZNCPLT	2	
3		235736001	BOLT-3/8-16 X 1 1/4 ZINC PLTD	5	
4		235725001	NUT-3/8-16 GR8 ZINC PLTD	1	
5		238248001	NUT-5/8 NC GR 8 HEX JAM ZINC	4	
6		236463001	BOLT-CRANK	2	
7		235718001	BOLT-1/2-13 X 2 GR8 HEX ZINC PLT	4	
8		485025	WASHER-1/2 FLAT-HARDENED-ZINC	12	
9		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	
10		235731001	NUT-1/2-13 GR8 ZINC PLTD	6	
11		236183001	BAR-LOCK	2	
12		236228001	BAR-ROD LOCK	1	
13		250510001	NUT 3/4 NC GR8 SLTL Y/ZINC	1	
14		236460001	PIN-ROD HOLDER	2	
15		1794003	HAIR PIN COTTER-.148 WIRE	9	
16		251270003	ROD BOX-3 ROW(251270001)	1	Inc Two Of Ref No 30
17		2107007	PIN-HITCH 3/4 X 6	5	
18		236462001	PIN-ROD HOLDER	2	
19		251278001	BOX ASSY-TWO ROW ROD(251269001)	1	Inc Two Of Ref No's 30 & 31
20		236120001	ARM-ROD KEEPER	2	
21		236189001	BAR-LOCK	1	
22		235717001	WASHER-3/4 SAE HARD ZINC PLTD	1	
23		236224001	BAR-LOCK	1	
24		236080001	BAR-STOP	1	
25		236081001	BAR-SPACER	1	
26		236225001	PLATE-SHIM	1	
27		231973020	SQ HSS-5/8-11 X 2 CUP PT(ZINC)	2	
28		377012	BOLT-1/2-13 X 1 1/4" GD#5 CARRIAGE	1	
29		235722001	NUT-1/2-13 GR8 JAM ZINC PLTD	1	
30		7000A627	DECAL-DANGER	4	
31		70000563	DECAL-WARNING (UND)	2	
32		240340001	BOLT-3/4-10 X 5 GR8 ZINC PLTD	1	
33		235729001	BOLT-1/2-13 X 1 GR8 HEX ZINC PLT	4	
34		1797003	PIN-QUICK ATTACHMENT LATCH 1/4"-"6M DIA"	6	S/N 101-1583
35		243232001	COVER ROD BOX END	1	S/N 101-1583
36		243233001	COVER ROD BOX END	1	S/N 101-1583
37		279099001	COVER-ROD BOX 5-ROW	1	
38		279098001	COVER-ROD BOX 2-ROW	1	
39	*	275927982	THRD CMPND - PLUSCO 135 - 10 PACK	1	
	*	275928982	THRD CMPND - PLUSCO 135 - 4/10 PACK	1	

Rod Loader Valve Assy Fig 10-5r01

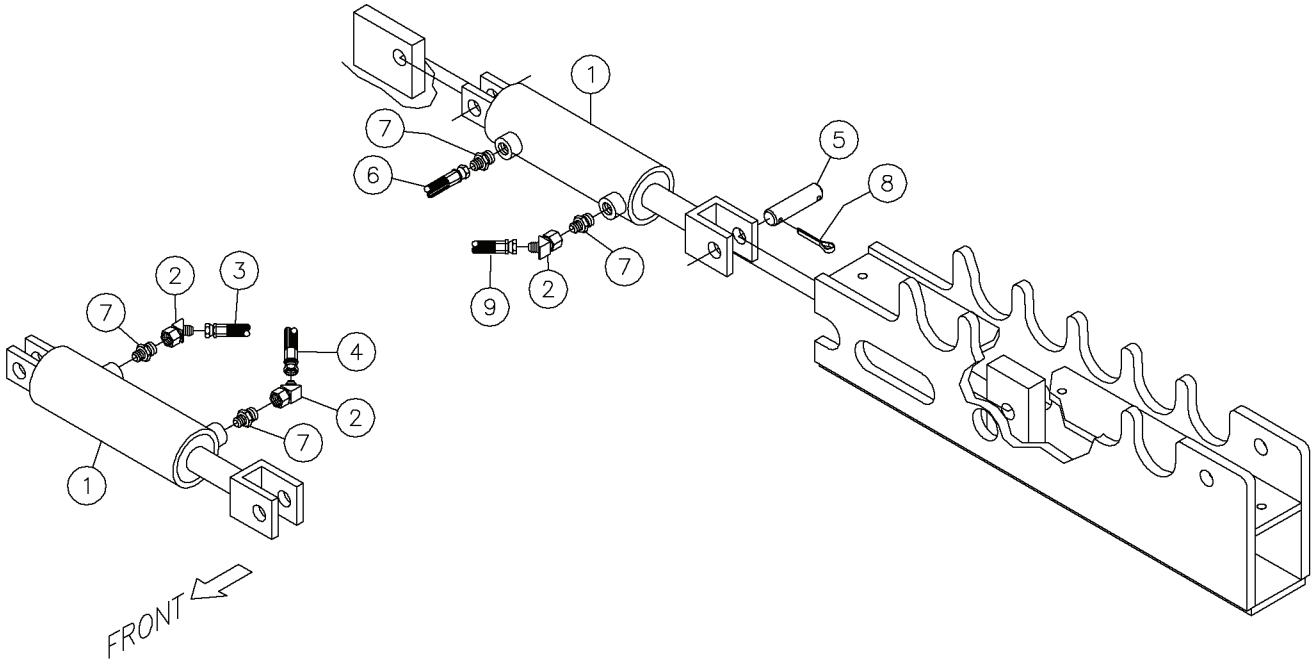
Revised February 1999 due to update in parts list. Changed parts marked with *.



Rod Loader Valve Assy Fig 10-5r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List
1	*	53843181	HOSE-1/4X28 4FS JIC 3000PSI	2	
2	*	236488001	FITTING-4MOR X 4 MJIC R.047	2	
3		53843447	HOSE-1/4X50 4FS JIC 3000 PSI	1	
4		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	6	
5		240942001	VALVE-ROD LOADER	1	Breakdown Fig 5-22
6		235716001	WASHER-1/4 SAE HARD ZINC PLTD	2	
7		238243001	BOLT 1/4”-20 X 4” GR8 HEX Y/Z	2	
8		60908001	FITTING-4MX4M JIC STR ADAPTER	2	
9		68210033	HOSE-1/4X58 4FS JIC 3000PSI	1	
10		53843005	HOSE-1/4X54 4FS JIC 3000 PSI	1	
11	*	53843339	HOSE-1/4X44 4FS JIC 3000 PSI	2	
12		249042001	HOSE-1/4”X 51” ST/90 3000PSI	1	
13		232124045	HOSE-1/4 X 54 FSJIC X FSJIC 90	1	
14		53843567	HOSE-1/4X46 4FS JIC 3000 PSI	1	

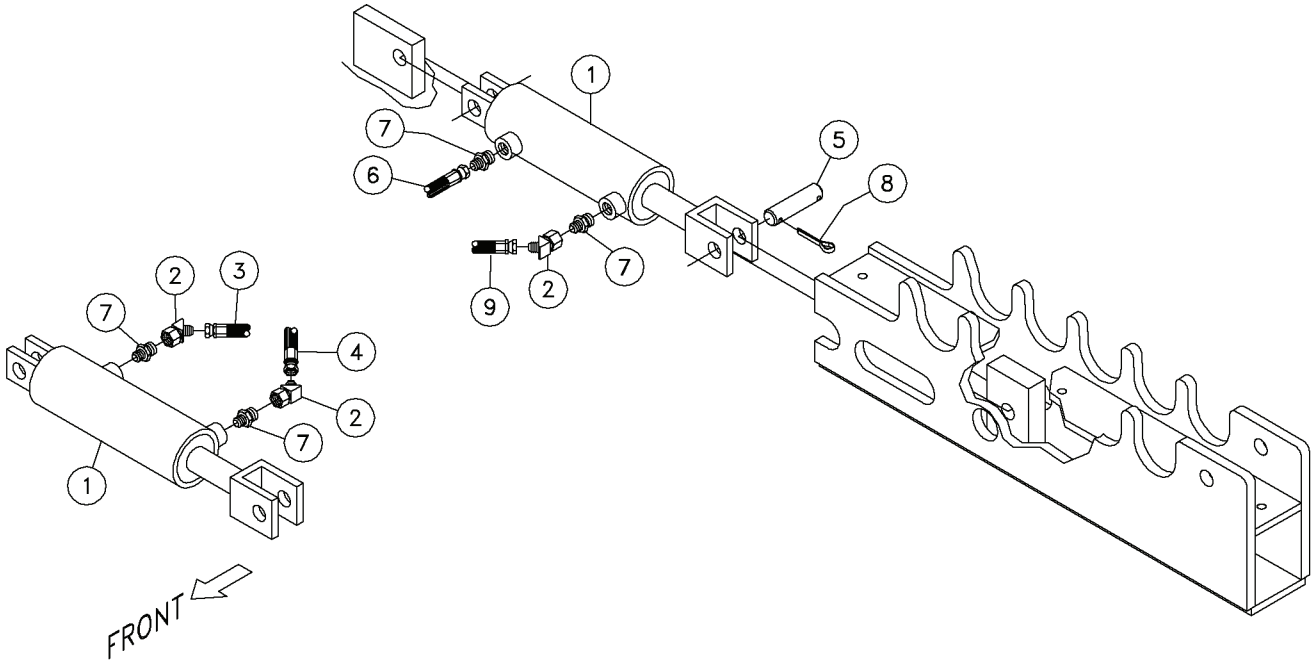
Rod Selector Cylinder Assy Fig 10-6r03



Rod Selector Cylinder Assy Fig 10-6r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1	*	249175001	CYLINDER - 2 X 5	2	Breakdown Fig 10-9r02, S/N 101-1775
	*	287589001	CYLINDER - 2 X 5	2	Breakdown Fig 10-9r03, SN 1775-
2		61498001	FITTING-4 JIC M X 4 JIC FS 45	3	
3		53843005	HOSE-1/4X54 4FS JIC 3000 PSI	1	
4		232124045	HOSE-1/4 X 54 FSJIC X FSJIC 90	1	
5		902445001	PIN-CYLINDER	4	
6		53843339	HOSE-1/4X44 4FS JIC 3000 PSI	1	
7		57968001	FITTING-STR-4MJ-6MORB	4	
8		510047	PIN - 3/16 X 1 1/4 COTTER	8	
9		53843567	HOSE-1/4X46 4FS JIC 3000 PSI	1	

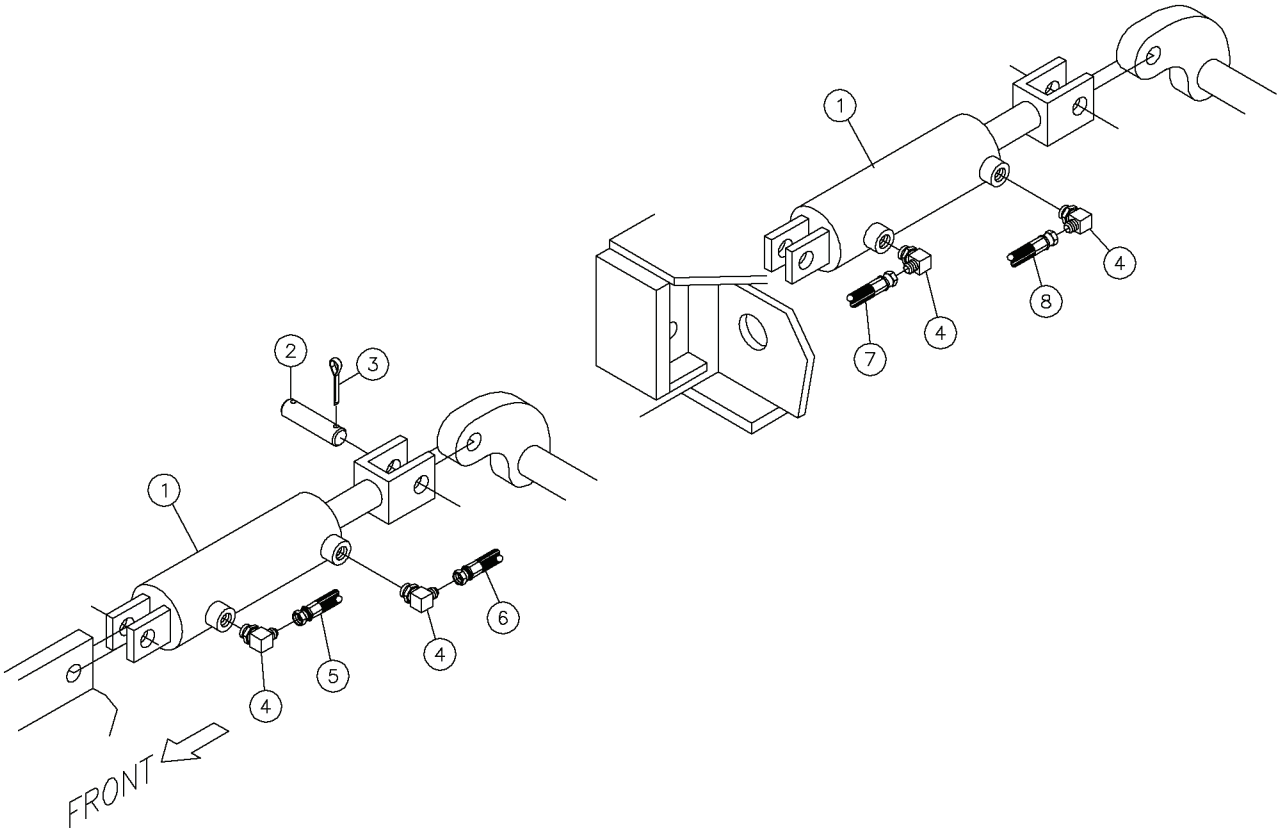
Rod Selector Cylinder Assy Fig 10-6r02



Rod Selector Cylinder Assy Fig 10-6r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List.
1		249175001	CYLINDER - 2 X 5	2	Breakdown Fig 10-9
2	*	61498001	FITTING-4 JIC M X 4 JIC FS 45	3	
3		53843005	HOSE-1/4X54 4FS JIC 3000 PSI	1	
4		232124045	HOSE-1/4 X 54 FSJIC X FSJIC 90	1	
5		902445001	PIN-CYLINDER	4	
6		53843339	HOSE-1/4X44 4FS JIC 3000 PSI	1	
7	*	57968001	FITTING-STR-4MJ-6MORB	4	
8		510047	PIN - 3/16 X 1 1/4 COTTER	8	
9		53843567	HOSE-1/4X46 4FS JIC 3000 PSI	1	

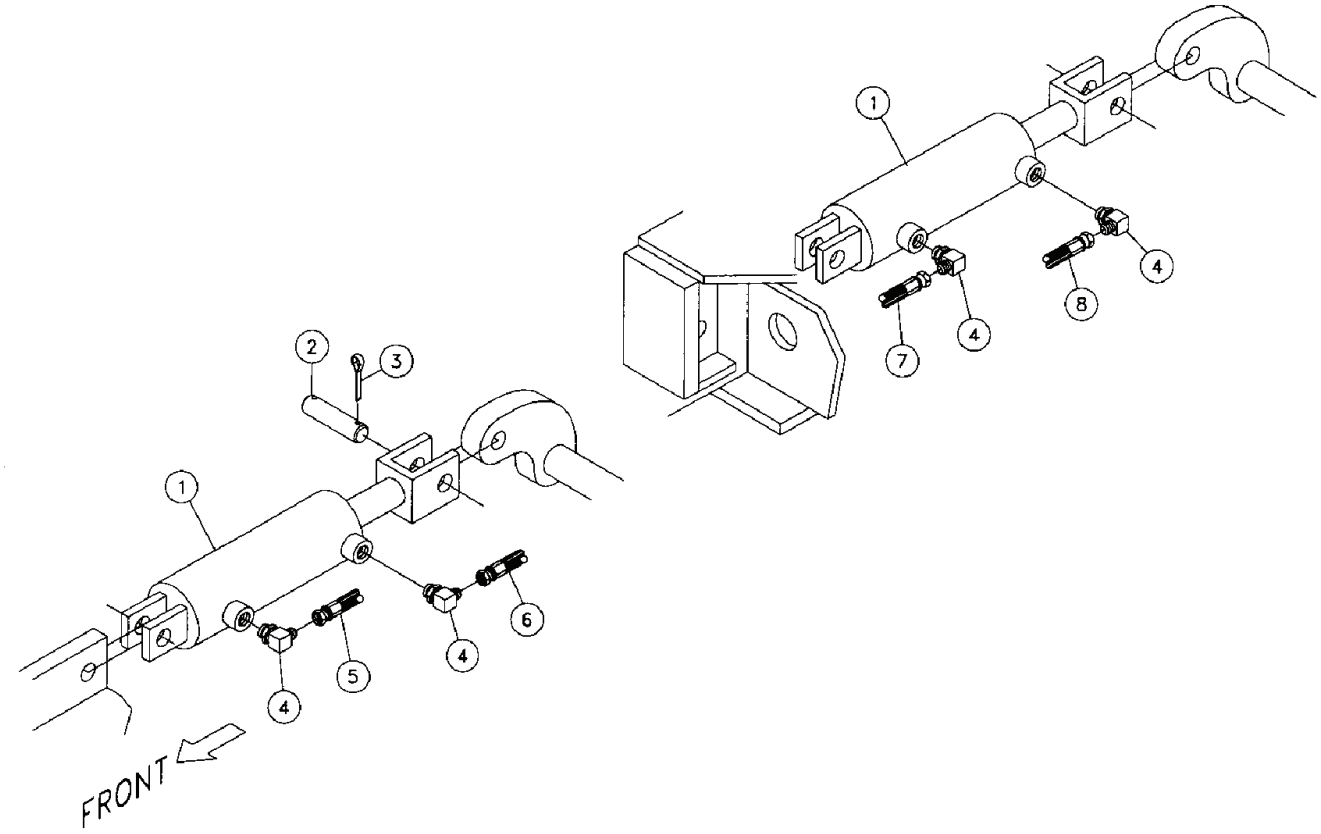
Rod Lifter Cylinder Assy Fig 10-7r01



Rod Lifter Cylinder Assy Fig 10-7r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1	*	230958001	CYLINDER-1 1/2 X 5	2	Breakdown Fig 10-10r01, S/N 101-1775
	*	287587001	CYLINDER - 1-1/2 X 5	2	Breakdown Fig 10-10r02, S/N 1776-
2		902445001	PIN-CYLINDER	4	
3		510047	PIN - 3/16 X 1 1/4 COTTER	4	
4		600118001	FITTING-6MORINGX4MJIC90PARKER	4	
5		68210033	HOSE-1/4X58 4FS JIC 3000 PSI	1	
6		53843447	HOSE-1/4X50 4FS JIC 3000 PSI	1	
7		53843339	HOSE-1/4X44 4FS JIC 3000 PSI	1	
8		249042001	HOSE-1/4”X 51” ST/90 3000PSI	1	

Rod Lifter Cylinder Assy Fig 10-7

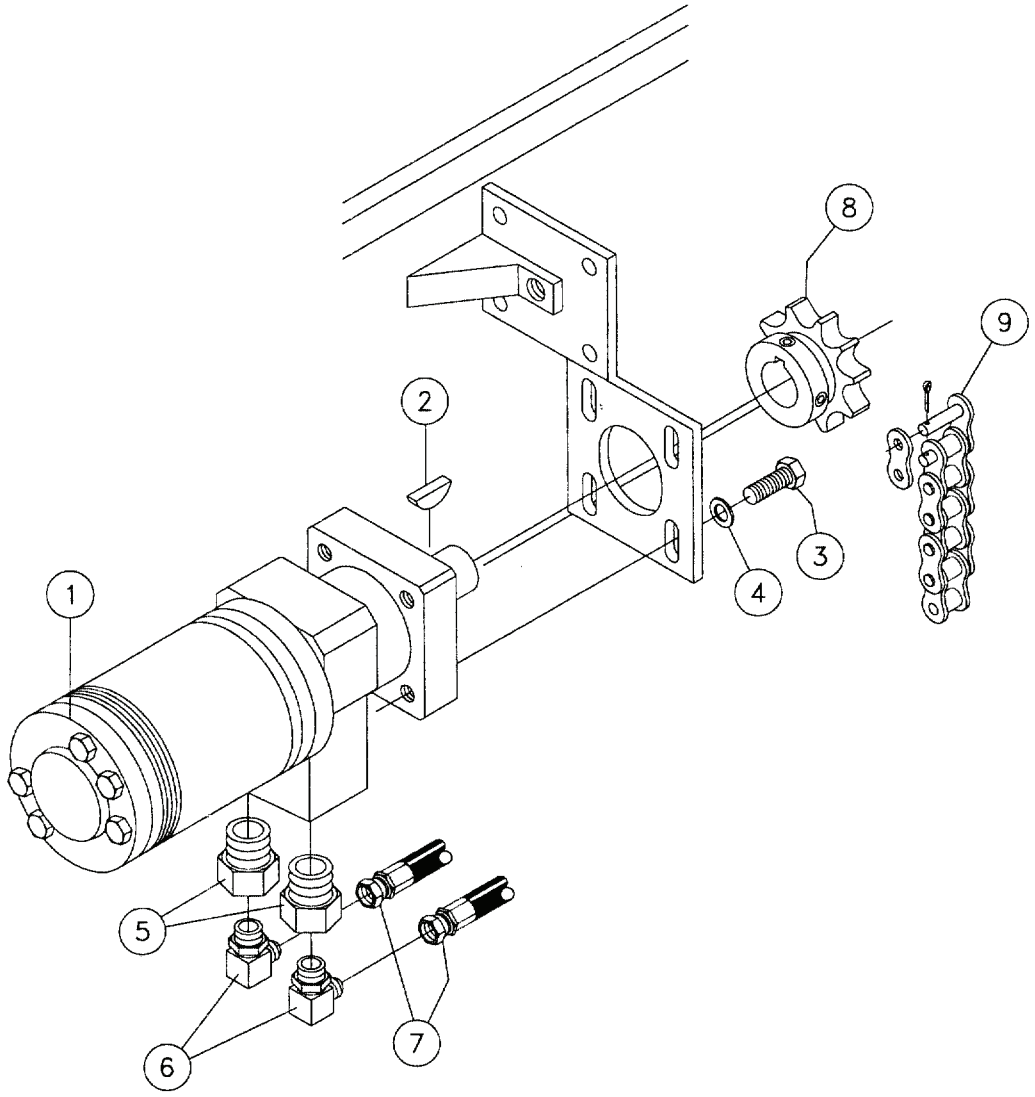


Rod Lifter Cylinder Assy Fig 10-7

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		230958001	CYLINDER-1 1/2 X 5	2	Breakdown Fig 10-10
2		902445001	PIN-CYLINDER	4	
3		510047	PIN - 3/16 X 1 1/4 COTTER	4	
4		600118001	FITTING-6MORINGX4MJIC90PARKER	4	
5		68210033	HOSE-1/4X58 4FS JIC 3000 PSI	1	
6		53843447	HOSE-1/4X50 4FS JIC 3000 PSI	1	
7		53843339	HOSE-1/4X44 4FS JIC 3000 PSI	1	
8		249042001	HOSE-1/4”X 51” ST/90 3000PSI	1	

Rotation Motor Assy Fig 10-8r02

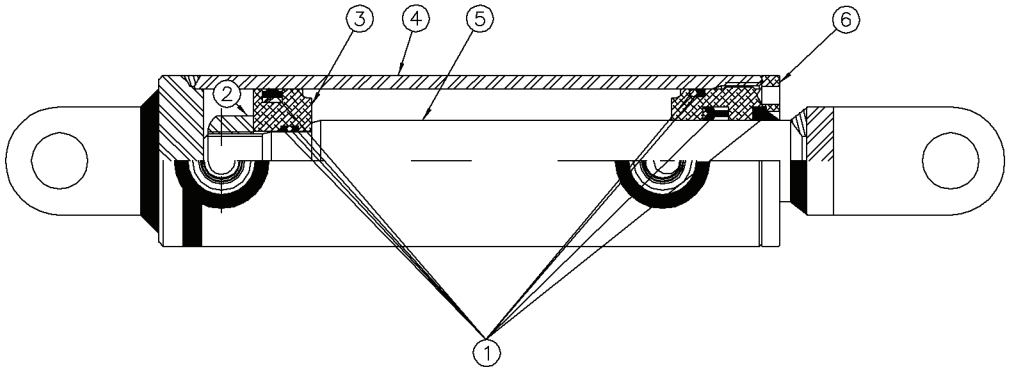
Revised February 2000 due to update in parts list. Changed part marked with *.



Rotation Motor Assy Fig 10-8r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Parts List
1	*	282807001	MOTOR - 22.6 CID HYD.	1	Breakdown Fig 10-11, Replaces 214193001
2		542009	WOODRUFF KEY-#15 1/4 X 1	1	
3		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	4	
4		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	
5		57967001	10M-6F O-RING BUSHING	2	
6		57950001	FITTING-6M X 4 JIC 90 DEG.	2	
7		53843181	HOSE-1/4X28 4FS JIC 3000PSI	2	
8		245041001	SPROCKET ROD LOADER MOTOR	1	
9		245072001	CHAIN-ROD LOADER (3/4”P, 22 PIT)	1	
		1773005	CONN. LINK - 60-1 SF PKGD		
		1769005	ROLLER LINK - 60-1 PKGD		
		1770005	OFFSET LINK - 60-1 PKGD		

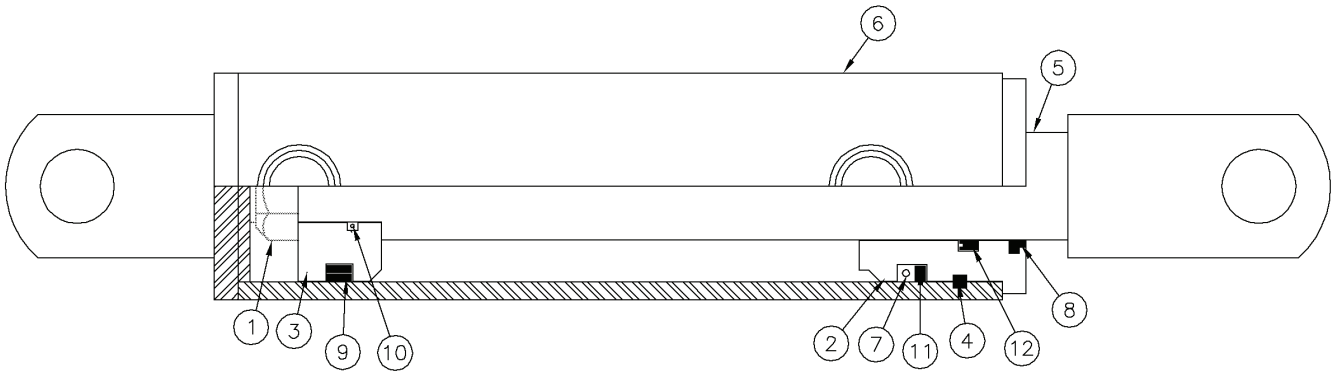
Hyd Cylinder Components - 2" x 5" (S/N 1776 -) Fig 10-9r03



Hyd Cylinder Components - 2" x 5" (S/N 1776 -) Fig 10-9r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		296253314	SEAL KIT	1	
2		296253309	LOCKNUT	1	
3		296253315	PISTON	1	
4		296253316	BARREL ASSEMBLY	1	
5		296253317	ROD ASSEMBLY	1	
6		296253318	INTERNAL HEAD	1	
		287589001	CYLINDER - 2 X 5		Inc All Items in Figure

Hyd Cylinder Components - 2" x 5" (S/N 101-1775) Fig 10-9r02

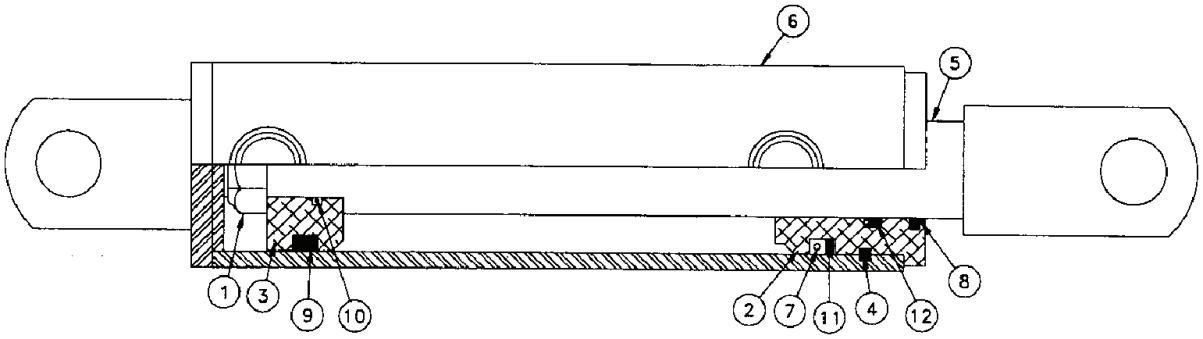


Hyd Cylinder Components - 2" x 5" (S/N 101-1775) Fig 10-9r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Heading.
1		249175003	NUT-CYLINDER	1	
2		249175005	HEAD-CYLINDER	1	
3		249175007	PISTON	1	
4		249175009	RETAINING RING	1	
5		249175011	SHAFT	1	
6		249175013	BARREL W/ CLEVIS & PORTS	1	
7		249175015	O-RING 1 5/8” X 3/16”	1	
8		249175017	DUST SEAL	1	
9		230977009	PSP-SEAL	1	
10		228165005	O-RING	1	
11		230977011	BACK-UP	1	
12		230977013	ROD SEAL	1	
		249175001	CYLINDER - 2 X 5		Inc Ref No’s 1-12
		230977023	REPAIR KIT		Inc Ref No’s 7-12

Hyd Cylinder Components - 2" x 5" Fig 10-9r01

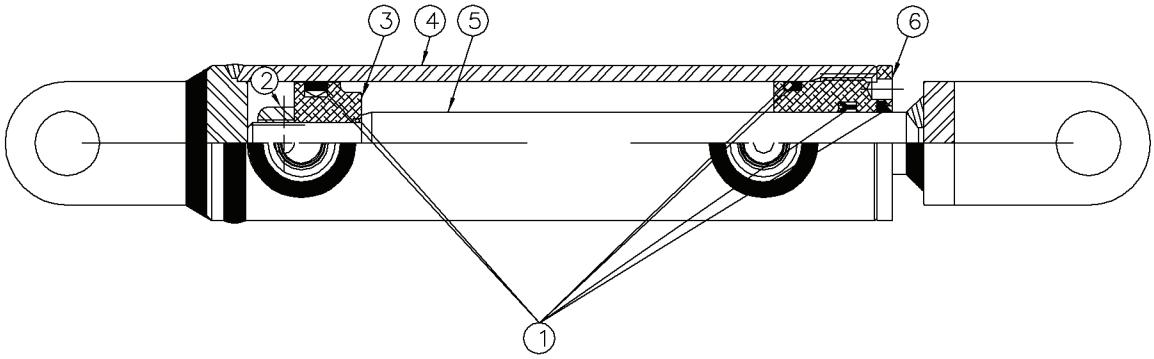
Revised February 1999 due to
update in parts list.



Hyd Cylinder Components - 2" x 5" Fig 10-9r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List
1		249175003	NUT-CYLINDER	1	
2		249175005	HEAD-CYLINDER	1	
3		249175007	PISTON	1	
4		249175009	RETAINING RING	1	
5		249175011	SHAFT	1	
6		249175013	BARREL W/ CLEVIS & PORTS	1	
7		249175015	O-RING 1 5/8” X 3/16”	1	
8		249175017	DUST SEAL	1	
9		230977009	PSP-SEAL	1	
10		228165005	O-RING	1	
11		230977011	BACK-UP	1	
12		230977013	ROD SEAL	1	
		249175001	CYLINDER - 2 X 5		Inc Ref No’s 1-12
		230977023	REPAIR KIT		Inc Ref No’s 7-12

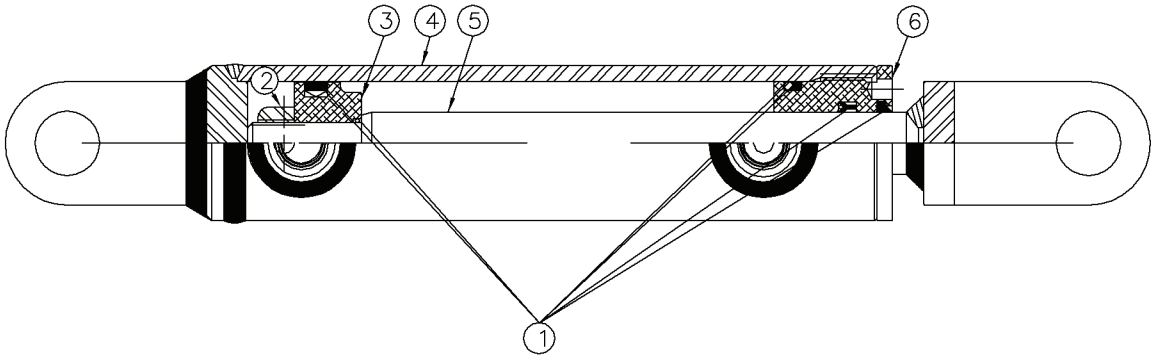
Hyd Cylinder Components - 1 1/2" x 5" (S/N 1776 -) Fig 10-10r03



Hyd Cylinder Components - 1 1/2" x 5" (S/N 1776 -) Fig 10-10r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2004		Change part number.
1		296253324	SEAL KIT	1	
2		202722001	LOCKNUT	1	
3		296253325	PISTON	1	
4		296253326	BARREL ASSEMBLY	1	
5		296253327	ROD ASSEMBLY	1	
6		296253328	INTERNAL HEAD	1	
	*	287587001	CYLINDER - 1-1/2 X 5		Inc. All Items in Figure

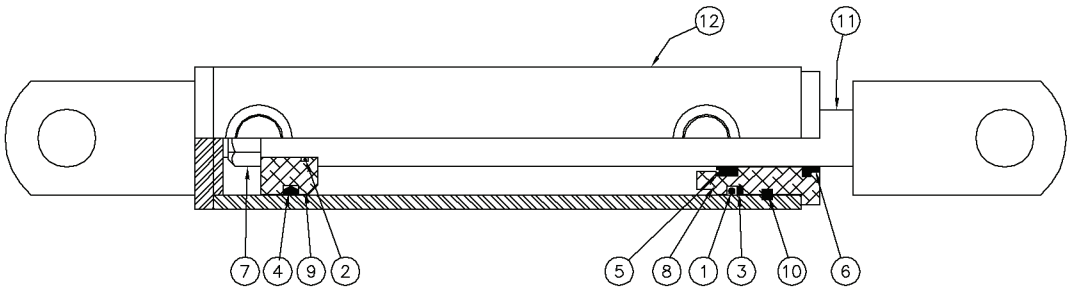
Hyd Cylinder Components - 1 1/2" x 5" (S/N 1776 -) Fig 10-10r02



Hyd Cylinder Components - 1 1/2" x 5" (S/N 1776 -) Fig 10-10r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		296253324	SEAL KIT	1	
2		202722001	LOCKNUT	1	
3		296253325	PISTON	1	
4		296253326	BARREL ASSEMBLY	1	
5		296253327	ROD ASSEMBLY	1	
6		296253328	INTERNAL HEAD	1	
		287589001	CYLINDER - 2 X 5		Inc. All Items in Figure

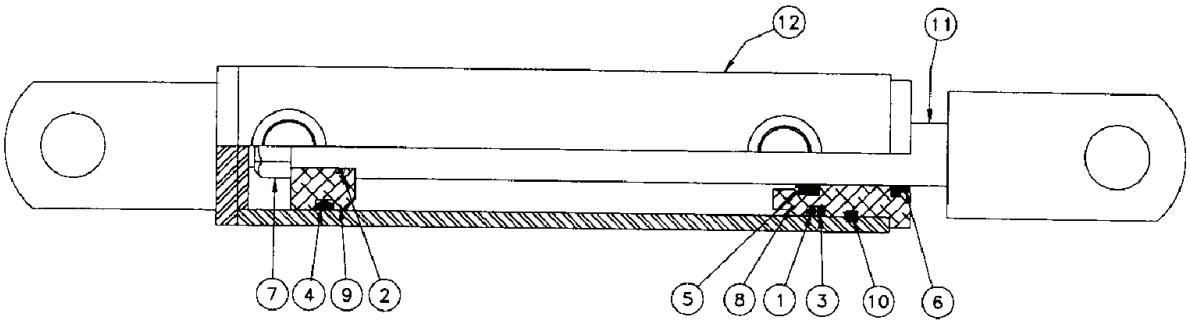
Hyd Cylinder Components - 1 1/2" x 5" (S/N 101-1775) Fig 10-10r01



Hyd Cylinder Components - 1 1/2" x 5" (S/N 101-1775) Fig 10-10r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Heading.
1		4883001	O-RING	1	
2		16138031	O-RING	1	
3		60531001	BACK-UP WASHER	1	
4		230958003	UNIRING	1	
5		230958005	ROD SEAL	1	
6		230958007	WIPER-ROD	1	
7		230958009	NUT	1	
8		230958011	HEAD	1	
9		230958013	PISTON	1	
10		230958015	KEYSTOCK	1	
11		230958017	ROD-PISTON	1	
12		230958019	BODY-CYLINDER	1	
		230958001	CYLINDER-1 1/2 X 5		Inc Ref No's 1-12
		230958021	REPAIR KIT -1 1/2" CYL		Inc Ref No's 1-6

Hyd Cylinder Components - 1 1/2" x 5" Fig 10-10

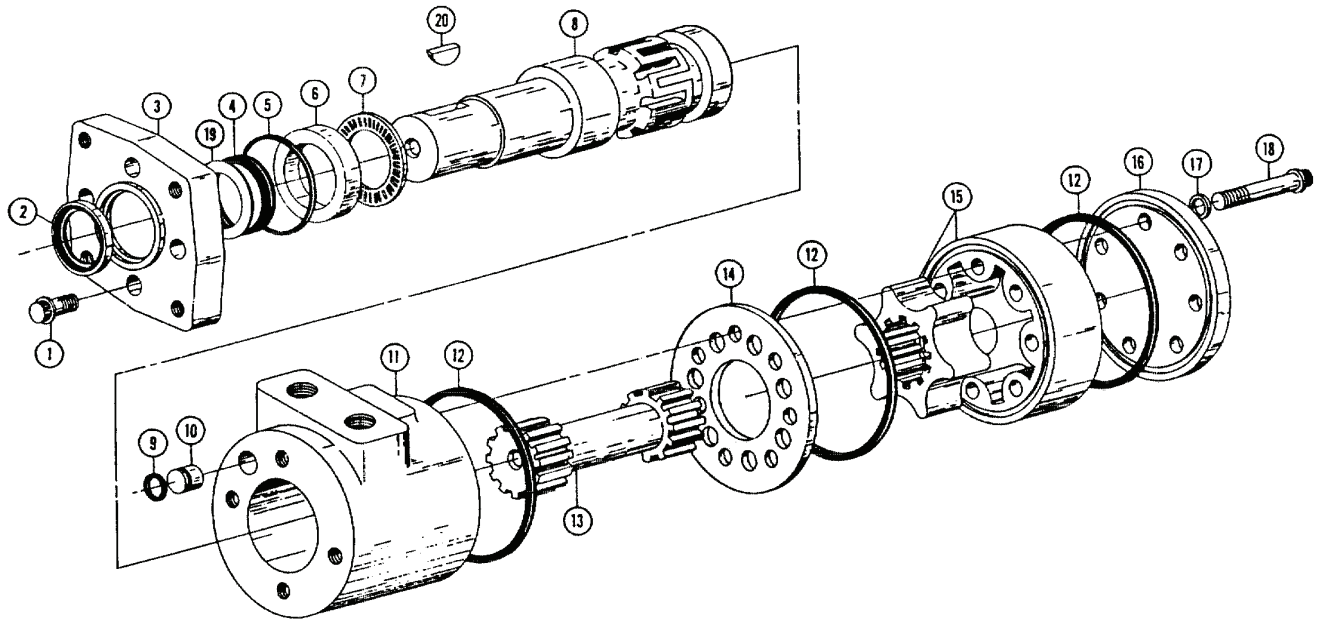


Hyd Cylinder Components - 1 1/2" x 5" Fig 10-10

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		4883001	O-RING	1	
2		16138031	O-RING	1	
3		60531001	BACK-UP WASHER	1	
4		230958003	UNIRING	1	
5		230958005	ROD SEAL	1	
6		230958007	WIPER-ROD	1	
7		230958009	NUT	1	
8		230958011	HEAD	1	
9		230958013	PISTON	1	
10		230958015	KEYSTOCK	1	
11		230958017	ROD-PISTON	1	
12		230958019	BODY-CYLINDER	1	
		230958001	CYLINDER-1 1/2 X 5		Inc Ref No's 1-12
		230958021	REPAIR KIT -1 1/2" CYL		Inc Ref No's 1-6

Hyd Motor Components Fig 10-11r02

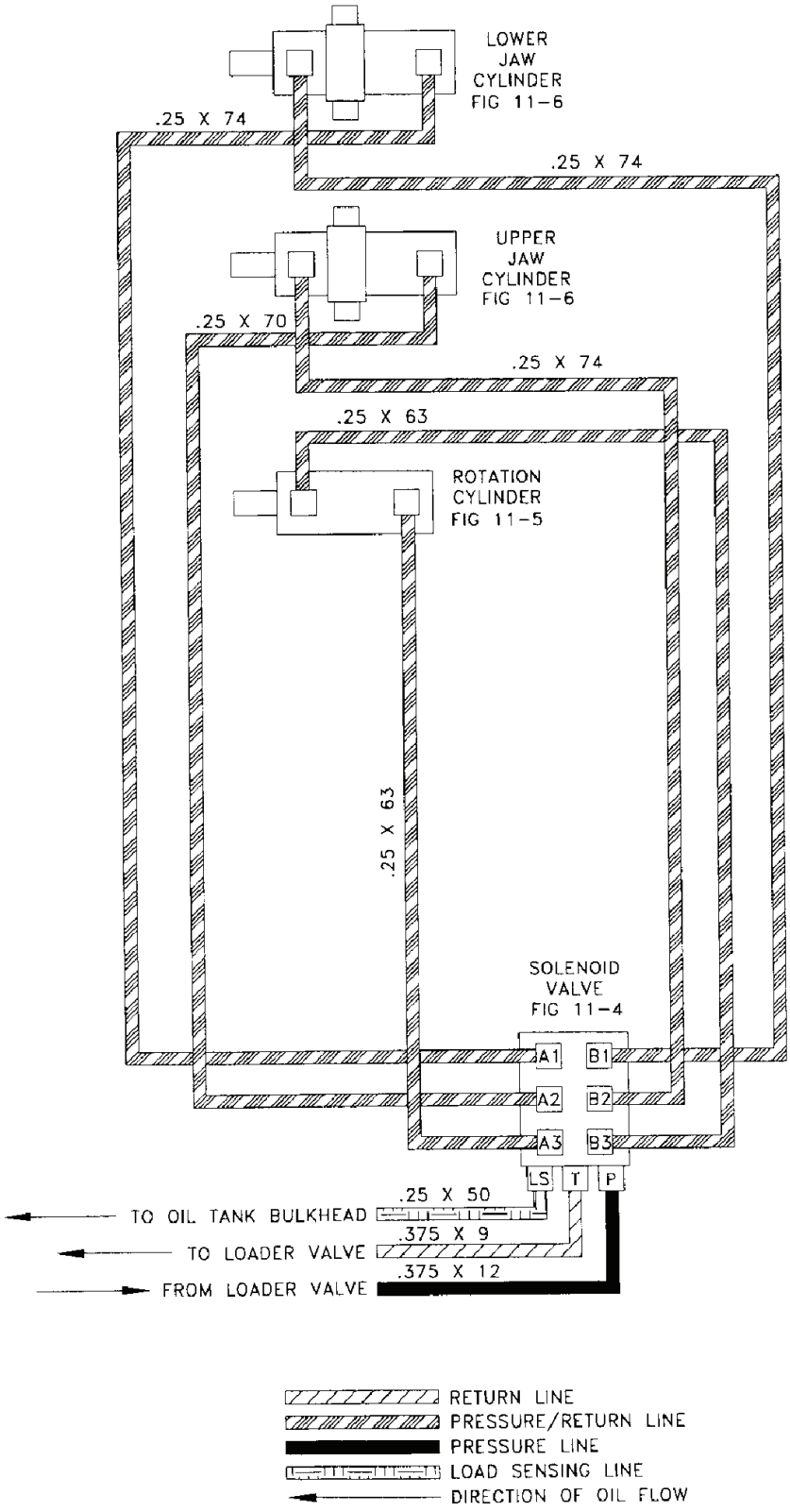
Revised February 2000 due to update
in parts list. Changed parts marked with *.



Hyd Motor Components Fig 10-11r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Parts List
1		1749003	SCREW-CAP	4	
2		751003	SEAL-DUST	1	
3	*	282807003	FLANGE - 4 BOLT MOUNTING	1	Replaces 900028003
4		900028005	SEAL SHAFT PRESSURE	1	
5		6284003	SEAL-9091-1	1	
6		751009	RACE-BEARING	1	
7		751011	BEARING-THRUST NEEDLE	1	
8		751013	SHAFT-OUTPUT KEYED-1	1	
9		765007	SEAL-O RING	1	
10		765009	PLUG	1	
11		214193003	HOUSING-7/8-14 O RING PORTS	1	
12		900028013	SEAL	3	
13		214193005	DRIVE	1	
14		751017	PLATE-SPACER	1	
15		NSS	GEROLER ASSEMBLY	1	
16		751021	CAP-END	1	
17		215258001	WASHER-SEAL	7	
18		1754005	SCREW-CAP	7	
19		79530009	WASHER-BACK UP	1	
20		542009	WOODRUFF KEY-#15 1/4 X 1	1	
	*	282807001	MOTOR - 22.6 CID HYD.		Inc Ref No's 1-20, Replaces 214193001
		900028021	SEAL REPAIR KIT		Inc Ref No's 2, 4, 5, 9, 12, 17 & 19
		NSS	NOT SOLD SEPARETELY		
		Note:	When ordering Replacement Parts		Include Product Number 101-2799-009 With Order

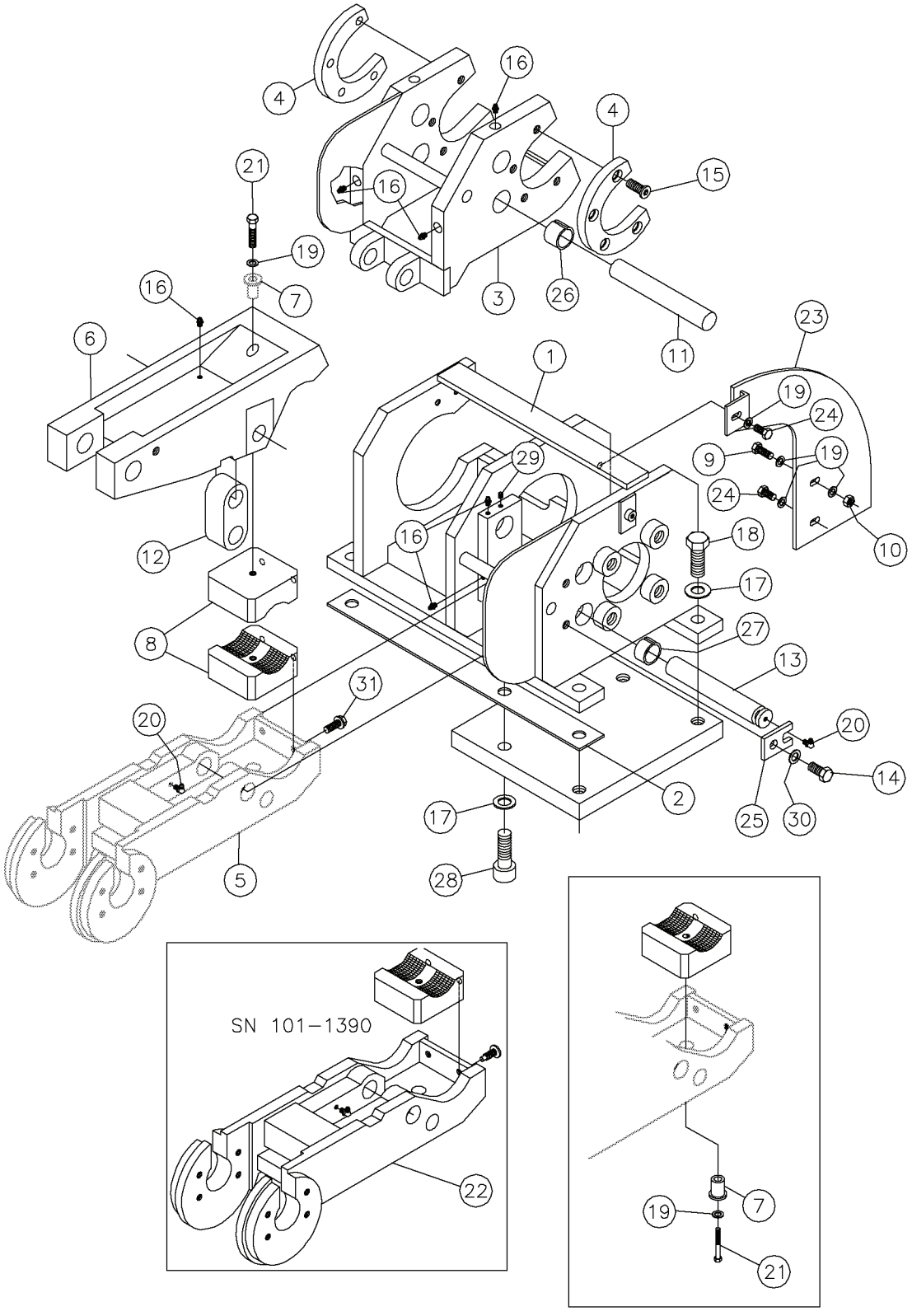
Hyd Components Location Diagram - Vise Clamp Fig 11-1



Hyd Components Location Diagram - Vise Clamp Fig 11-1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS

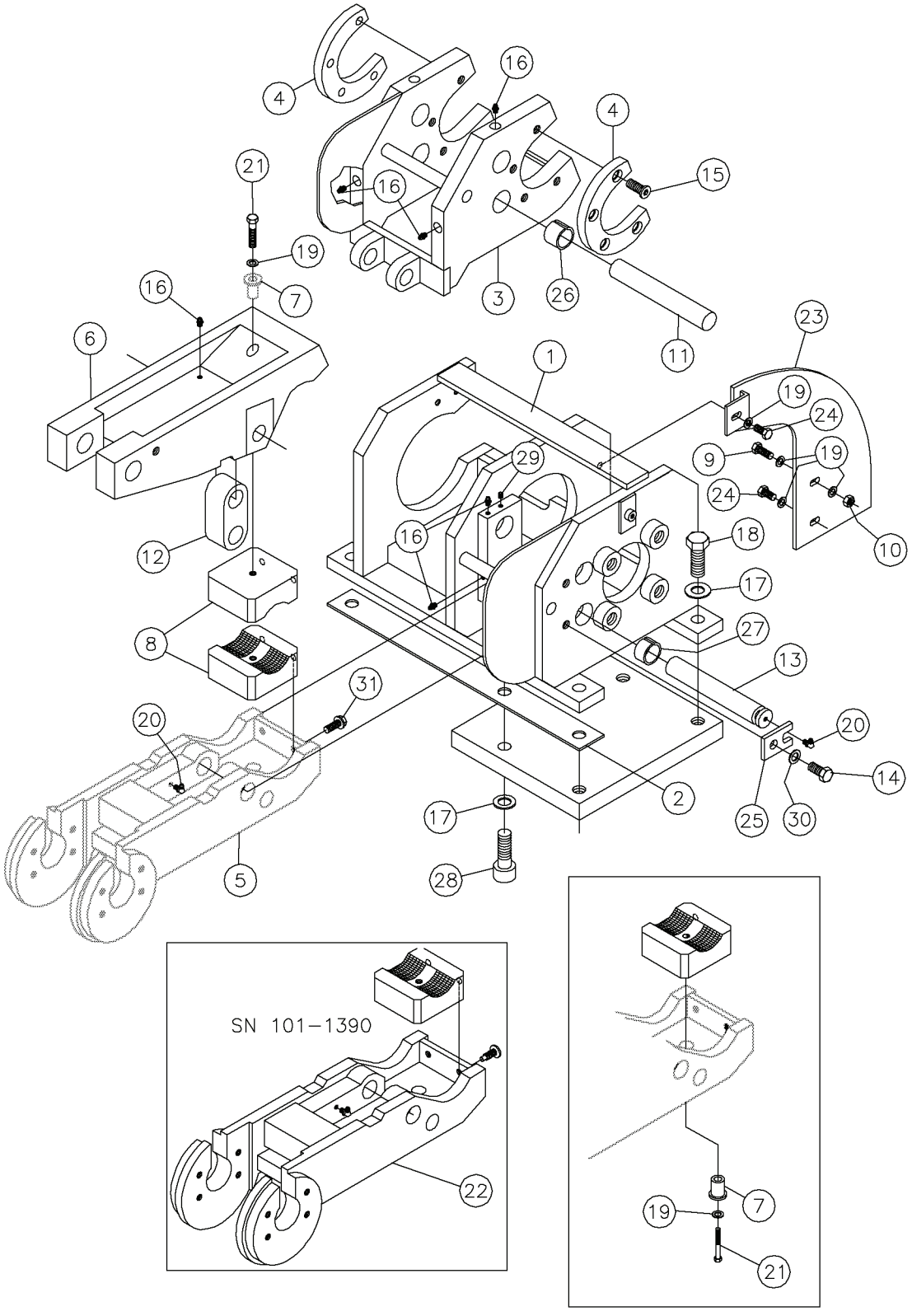
Clamp Assy Fig 11-2r07



Clamp Assy Fig 11-2r07

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	January, 2008		Update In Parts List.
1		243025003	FRAME ASSEMBLY-VISE	1	Inc Two Of Ref No's 16 & 27
2		228030001	SHIM-MOUNTING 1/16	A/R	P/N Qty Of 1 = 1 Each
		228036001	SHIM-MOUNTING 1/8	A/R	P/N Qty Of 1 = 1 Each
3		240885003	PIVOT ASSEMBLY-VISE	1	Inc Four Of Ref No's 16 & 26
4		240908001	PLATE-INSERT	2	
5		282810003	ARM ASSEMBLY - LOWER VISE ARM	2	Inc Two Of Ref No 20, S/N 1639 -
		235353003	ARM ASSEMBLY-LOWER VISE ARM	2	Inc Two Of Ref No 20, S/N 101-1638
6		282811003	ARM ASSY - UPPER VISE	2	Inc Two Of Ref No 20, S/N 1639 -
		240916003	ARM ASSEMBLY-UPPER VISE	2	Inc Two Of Ref No 16, S/N 101-1638
7		228064001	INSERT-FASTENER	1	
8		230831001	DIE-CONTOUR VERMEER 2 5/8	4	
9		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	1	
10		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	1	
11		240918001	PIN-PIVOT	2	
12		240917001	PLATE-LINK	2	
13		240909003	PIN ASSEMBLY-VISE	2	Inc Ref No 28
14		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	2	
15		240854001	SCREW-1/2-13 UNCX1 1/4 LOW SH	8	
16		598001	FITTING-1/4" NF ST GREASE ZERK	6	
17		285717001	HOSE-HYD-.25-18-4FOX-4FOX90S-M3K	6	
18		235746001	BOLT-3/4-10X2 GR8 HEX ZNC PLTD	5	
19		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	6	
20		597001	ZERK-1/4" NF 90 DEG GREASE	4	
21		235720001	BOLT-3/8-16X1 3/4 6R8 ZINC PLT	2	
22		249161001	BOLT-JAW PIN 3/8-16 X 1 SPEC	4	S/N 101-1390
23		228066001	PLATE- GUIDE	1	
24		285726001	HOSE-HYD-.75-12FOX-12FOX90S-M3K	2	
25	*	235929001	PLATE-TAB	2	
26		240877001	BSHG-STL 1 3/8 ODX1 1/8 ID-1.0	4	
27		240878001	BSHG-STL 1 3/8 ODX1 1/8 ID-.75	4	
28		249153001	SCREW-3/4-10X2 1/4 GR8 Y/ZINC	1	
29		522001	SSS-1/4-28X1/4	1	
30		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	
31		4475010	BOLT-3/8-16X1 FLANGE WHIZ	2	

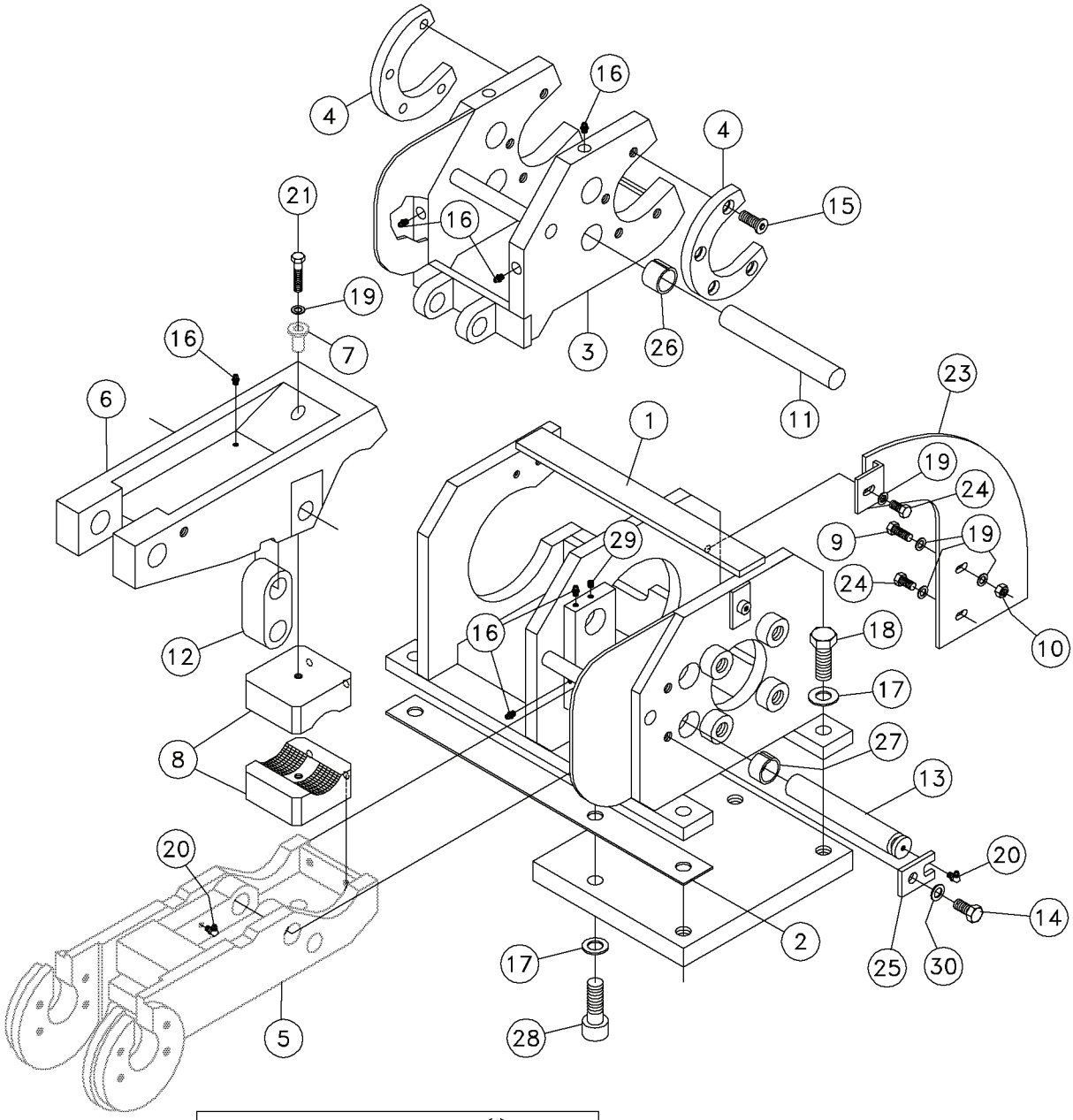
Clamp Assy Fig 11-2r06

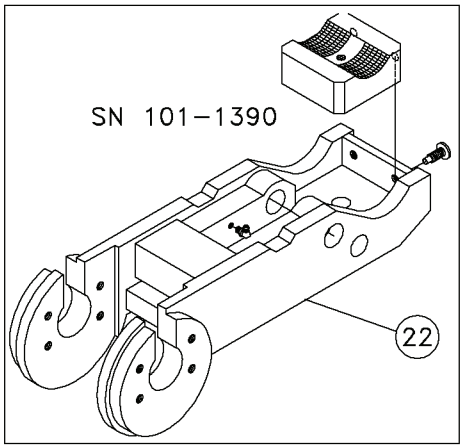


Clamp Assy Fig 11-2r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		243025003	FRAME ASSEMBLY-VISE	1	Inc Two Of Ref No's 16 & 27
2		228030001	SHIM-MOUNTING 1/16	A/R	P/N Qty Of 1 = 1 Each
		228036001	SHIM-MOUNTING 1/8	A/R	P/N Qty Of 1 = 1 Each
3		240885003	PIVOT ASSEMBLY-VISE	1	Inc Four Of Ref No's 16 & 26
4		240908001	PLATE-INSERT	2	
5		282810003	ARM ASSEMBLY - LOWER VISE ARM	2	Inc Two Of Ref No 20, S/N 1639 -
		235353003	ARM ASSEMBLY-LOWER VISE ARM	2	Inc Two Of Ref No 20, S/N 101-1638
6		282811003	ARM ASSY - UPPER VISE	2	Inc Two Of Ref No 20, S/N 1639 -
		240916003	ARM ASSEMBLY-UPPER VISE	2	Inc Two Of Ref No 16, S/N 101-1638
7	*	228064001	INSERT-FASTENER	1	
8		230831001	DIE-CONTOUR VERMEER 2 5/8	4	
9		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	1	
10		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	1	
11		240918001	PIN-PIVOT	2	
12		240917001	PLATE-LINK	2	
13		240909003	PIN ASSEMBLY-VISE	2	Inc Ref No 28
14		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	2	
15		240854001	SCREW-1/2-13 UNCX1 1/4 LOW SH	8	
16		598001	FITTING-1/4" NF ST GREASE ZERK	6	
17		285717001	HOSE-HYD-.25-18-4FOX-4FOX90S-M3K	6	
18		235746001	BOLT-3/4-10X2 GR8 HEX ZNC PLTD	5	
19	*	235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	6	
20		597001	ZERK-1/4" NF 90 DEG GREASE	4	
21	*	235720001	BOLT-3/8-16X1 3/4 6R8 ZINC PLT	2	
22		249161001	BOLT-JAW PIN 3/8-16 X 1 SPEC	4	S/N 101-1390
23		228066001	PLATE- GUIDE	1	
24		285726001	HOSE-HYD-.75-12FOX-12FOX90S-M3K	2	
25		285929001	BEARING - 2 HALVES - CRANK PIN WITH OIL GROOVE	2	
26		240877001	BSHG-STL 1 3/8 ODX1 1/8 ID-1.0	4	
27		240878001	BSHG-STL 1 3/8 ODX1 1/8 ID-.75	4	
28		249153001	SCREW-3/4-10X2 1/4 GR8 Y/ZINC	1	
29		522001	SSS-1/4-28X1/4	1	
30		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	
31	*	4475010	BOLT-3/8-16X1 FLANGE WHIZ	2	

Clamp Assy Fig 11-2r05

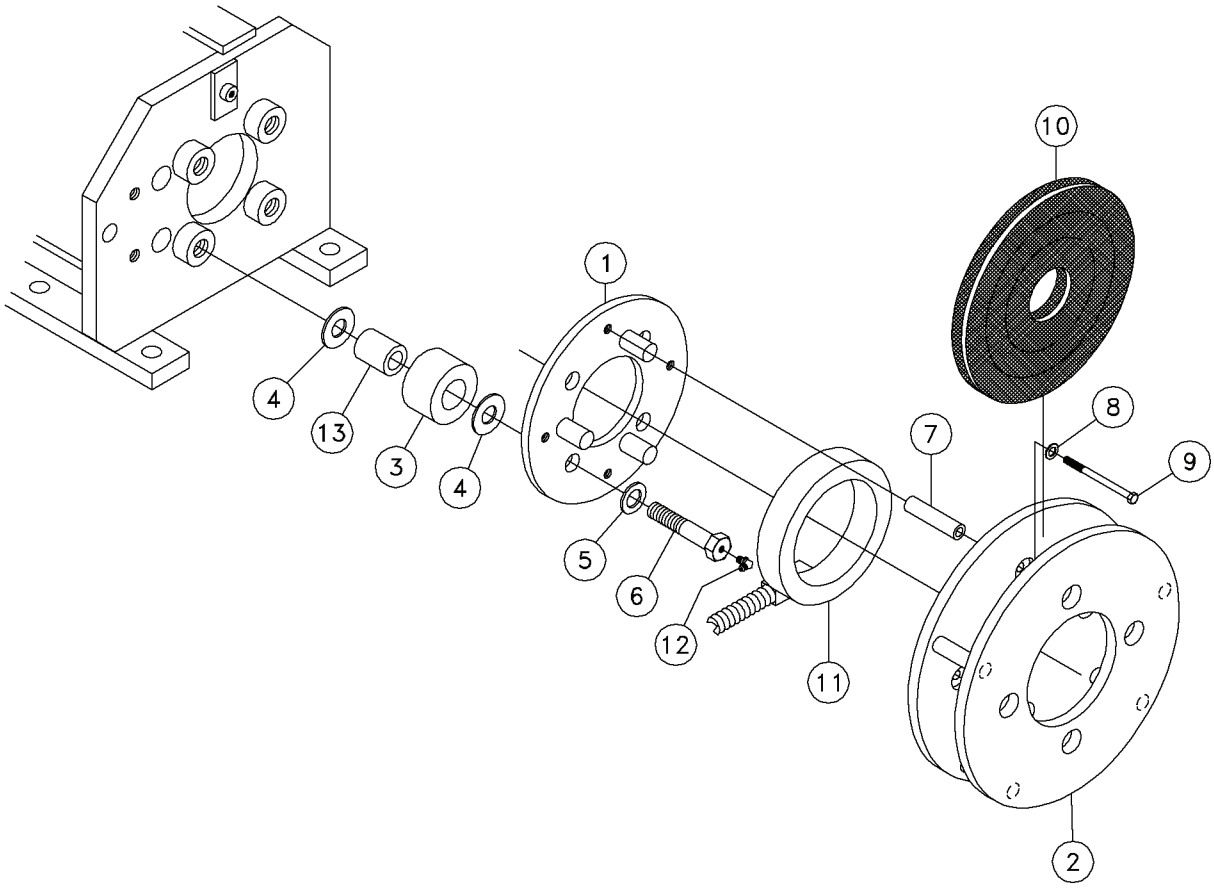




Clamp Assy Fig 11-2r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration & Parts List
1		243025003	FRAME ASSEMBLY-VISE	1	Inc Two Of Ref No's 16 & 27
2		228030001	SHIM-MOUNTING 1/16	A/R	P/N Qty Of 1 = 1 Each
		228036001	SHIM-MOUNTING 1/8	A/R	P/N Qty Of 1 = 1 Each
3		240885003	PIVOT ASSEMBLY-VISE	1	Inc Four Of Ref No's 16 & 26
4		240908001	PLATE-INSERT	2	
5	*	282810003	ARM ASSEMBLY - LOWER VISE ARM	2	Inc Two Of Ref No 20, S/N 1639 -
		235353003	ARM ASSEMBLY-LOWER VISE ARM	2	Inc Two Of Ref No 20, S/N 101-1638
6	*	282811003	ARM ASSY - UPPER VISE	2	Inc Two Of Ref No 20, S/N 1639 -
		240916003	ARM ASSEMBLY-UPPER VISE	2	Inc Two Of Ref No 16, S/N 101-1638
7		228064001	INSERT-FASTENER	2	
8		230831001	DIE-CONTOUR VERMEER 2 5/8	4	
9		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	1	
10		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	1	
11		240918001	PIN-PIVOT	2	
12		240917001	PLATE-LINK	2	
13		240909003	PIN ASSEMBLY-VISE	2	Inc Ref No 28
14		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	2	
15		240854001	SCREW-1/2-13 UNCX1 1/4 LOW SH	8	
16		598001	FITTING-1/4" NF ST GREASE ZERK	6	
17		285717001	HOSE-HYD-.25-18-4FOX-4FOX90S-M3K	6	
18		235746001	BOLT-3/4-10X2 GR8 HEX ZNC PLTD	5	
19		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	8	
20		597001	ZERK-1/4" NF 90 DEG GREASE	4	
21		235720001	BOLT-3/8-16X1 3/4 6R8 ZINC PLT	4	
22		249161001	BOLT-JAW PIN 3/8-16 X 1 SPEC	4	S/N 101-1390
23		228066001	PLATE- GUIDE	1	
24		285726001	HOSE-HYD-.75-12FOX-12FOX90S-M3K	2	
25		285929001	BEARING - 2 HALVES - CRANK PIN WITH OIL GROOVE	2	
26		240877001	BSHG-STL 1 3/8 ODX1 1/8 ID-1.0	4	
27		240878001	BSHG-STL 1 3/8 ODX1 1/8 ID-.75	4	
28		249153001	SCREW-3/4-10X2 1/4 GR8 Y/ZINC	1	
29		522001	SSS-1/4-28X1/4	1	
30		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	

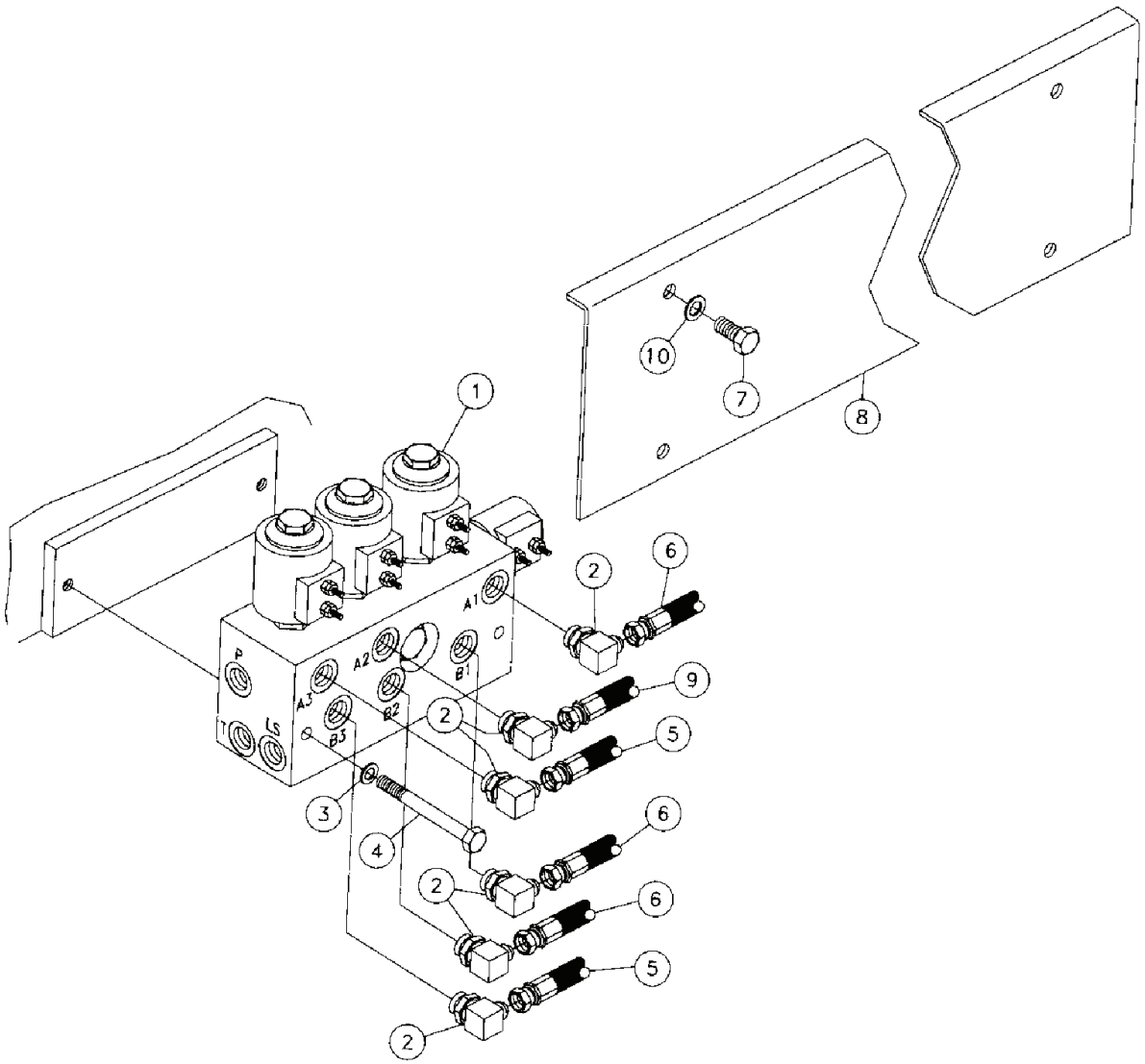
Zap Alert Coil Assy Fig 11-3r03



Zap Alert Coil Assy Fig 11-3r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228051001	SUPPORT-ROLLER	1	
2		235313001	HOLDER-ROD WIPER	1	
3		244679001	ROLLER-GUIDE	4	
4		485017	WASHER-3/4 FLAT	8	
5		235717001	WASHER-3/4 SAE HARD ZINC PLTD	4	
6		235915003	BOLT ASSEMBLY-GREASE	4	Inc One Of Ref No 12
7		1079049	TUBE-1” OD X 11GA.RND-1 7/8	4	
8		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	
9		16114034	BOLT-3/8-16 X 3 1/2 HEX HD. GR8	4	
10		235924001	WIPER-2.38 OD ROD	1	
11		285510001	COIL - ZAP ALERT	1	S/N 101-1548, 1550-1610
	*	282518001	COIL - ZAP ALERT	1	S/N 1549, 1611
12		597001	ZERK-1/4” NF 90 DEG GREASE	4	
13		244678001	BUSHING GUIDE ROLLER	4	

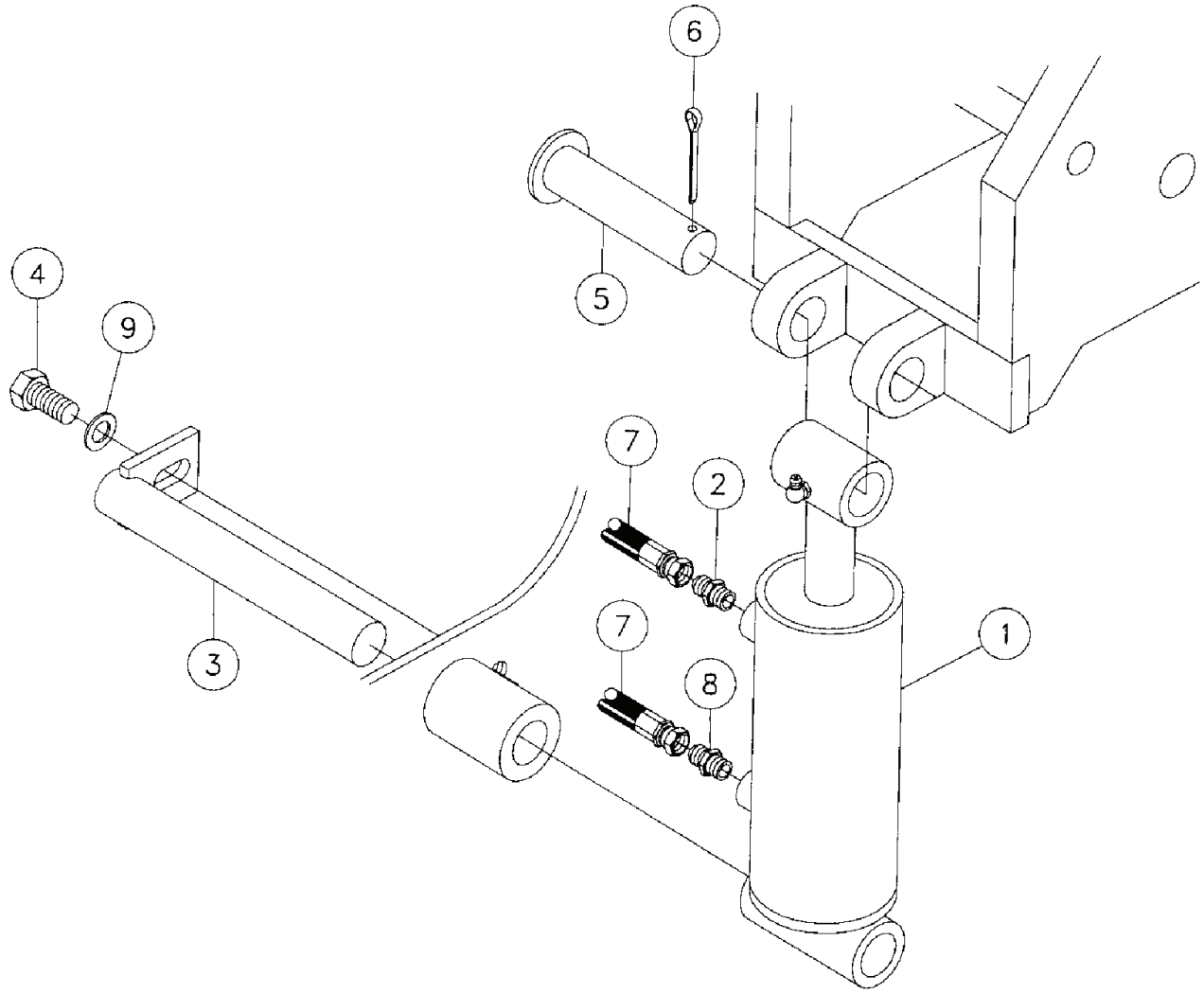
Solenoid Valve Assy - 3 Bank (Vise Clamp) Fig 11-4



Solenoid Valve Assy - 3 Bank (Vise Clamp) Fig 11-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		240941001	VALVE-VISE	1	Breakdown Fig 5-21
2		57950001	FITTING-6M X 4 JIC 90 DEG.	6	
3		235714001	WASHER-5/16 SAE HARD ZINC PLTD	2	
4		238212001	BOLT-5/16-18 X 3” GR 8 HEX YZI	2	
5		53843587	HOSE-14X63 4FS JIC 3000 PSI	2	
6		53843119	HOSE-1/4X74 4FS JIC (100R1)	3	
7		235726001	BOLT-3/8-16X3/4 GR 8 HEX ZNCPLT	4	
8		228090001	COVER-HOSE	1	
9		53843689	HOSE-1/4X70 4FS JIC 3000 PSI	1	
10		235713001	WASHER-3/8 SAE HARD ZINC PLTD	4	

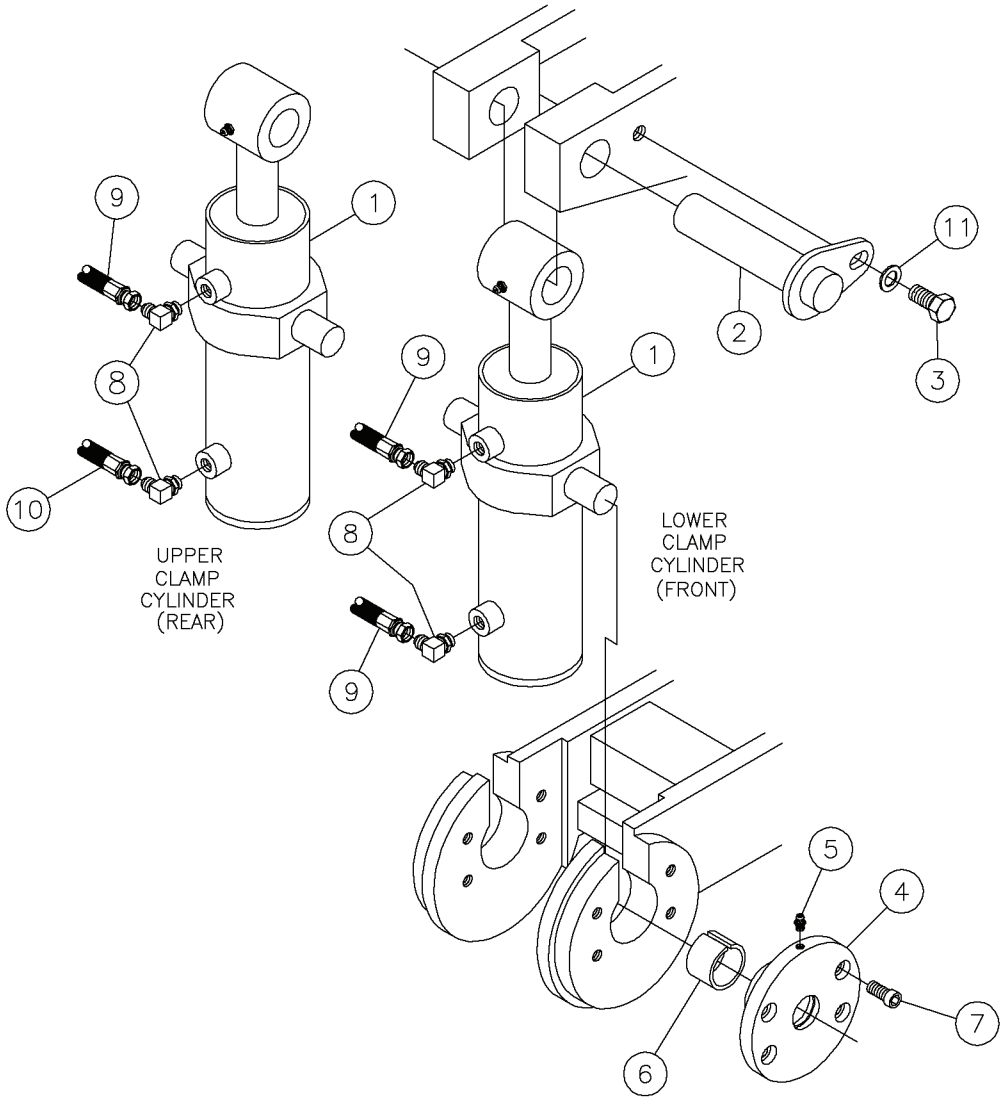
Rotation Cylinder Assy Fig 11-5



Rotation Cylinder Assy Fig 11-5

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228021001	CYLINDER-2 1/2 X 3 HYD	1	Breakdown Fig 11-8
2		60908001	FITTING-4MX4M JIC STR ADAPTER	1	
3		228037001	PIN-STATIONARY	1	
4		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	1	
5		228061001	PIN-TILT	1	
6		510025	COTTER PIN-3/16” X 2”	1	
7		53843587	HOSE-1/4X63 4FS JIC 3000 PSI	2	
8		245007001	FITTING-4M ORING X4MJIC R.063	1	
9		485025	WASHER-1/2 FLAT-HARDENED-ZINC	1	

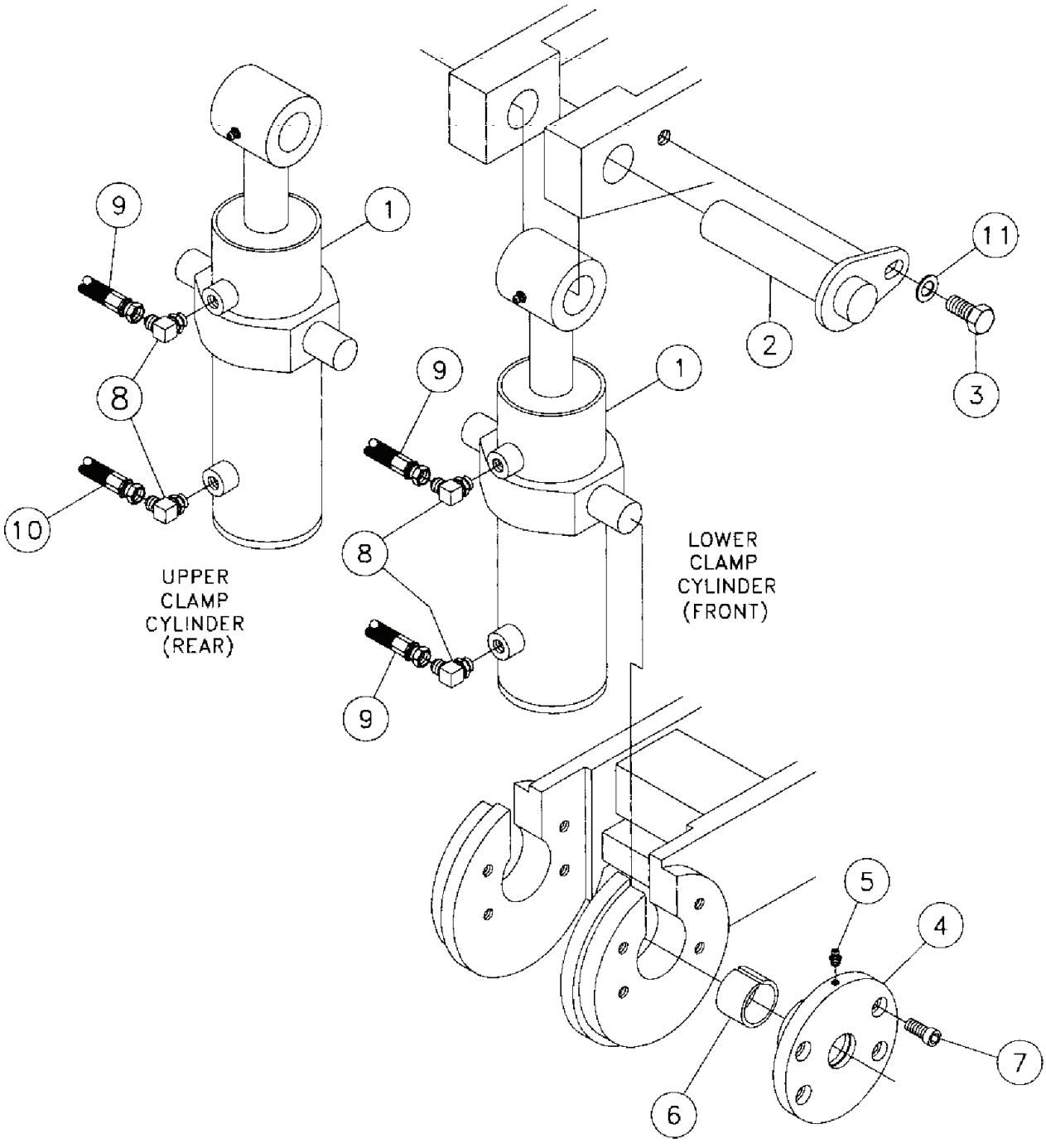
Jaw Cylinder Assy Fig 11-6r01



Jaw Cylinder Assy Fig 11-6r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Parts List.
1	*	228165001	CYLINDER-2 1/2 X 6 5/8	2	Breakdown Fig 11-7r01, S/N 101-1775
	*	287590001	CYLINDER - 2-1/2 X 6-5/8	2	Breakdown Fig 11-7r02, S/N 1776-
2		228058001	PIN-CLAMP	2	
3		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	2	
4		240907001	BUSHING-TRUNNION	4	Inc Ref No's 5 & 6
5		598001	FITTING-1/4" NF ST GREASE ZERK	4	
6		1835025	BSHG.-STL.- 1 1/2 X 1 1/4 X 1	4	
7		601696010	SOCKET HD CAP SCREW 3/8-16X1 Z	16	
8		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	1	
9		53843119	HOSE-1/4X74 4FS JIC (100R1)	3	
10		53843689	HOSE-1/4X70 4FS JIC 3000 PSI	1	
11		485025	WASHER-1/2 FLAT-HARDENED-ZINC	2	

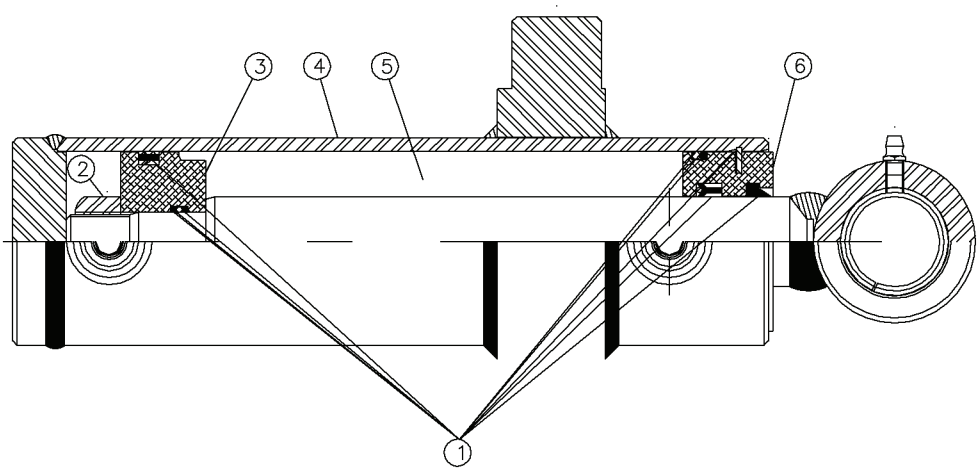
Jaw Cylinder Assy Fig 11-6



Jaw Cylinder Assy Fig 11-6

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228165001	CYLINDER-2 1/2 X 6 5/8	2	Breakdown Fig 11-7
2		228058001	PIN-CLAMP	2	
3		235729001	SCREW-HCS-.50-13X1.00-GR8-YZ	2	
4		240907001	BUSHING-TRUNNION	4	Inc Ref No's 5 & 6
5		598001	FITTING-1/4" NF ST GREASE ZERK	4	
6		1835025	BSHG.-STL.- 1 1/2 X 1 1/4 X 1	4	
7		601696010	SOCKET HD CAP SCREW 3/8-16X1 Z	16	
8		59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	1	
9		53843119	HOSE-1/4X74 4FS JIC (100R1)	3	
10		53843689	HOSE-1/4X70 4FS JIC 3000 PSI	1	
11		485025	WASHER-1/2 FLAT-HARDENED-ZINC	2	

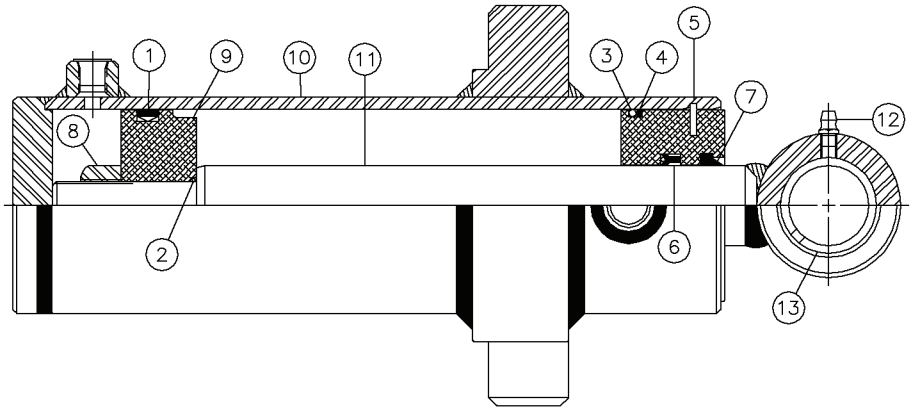
Hyd Cylinder Components - 2 1/2" x 6 5/8" (S/N 1776 -) Fig 11-7r02



Hyd Cylinder Components - 2 1/2" x 6 5/8" (S/N 1776 -) Fig 11-7r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		296253319	SEAL KIT	1	
2		296253309	LOCKNUT	1	
3		296253320	PISTON	1	
4		296253321	BARREL ASSEMBLY	1	
5		296253322	ROD ASSEMBLY	1	
6		296253323	SNAP RING HEAD	1	
		287590001	CYLINDER - 2-1/2 X 6-5/8		Includes All Items In Figure

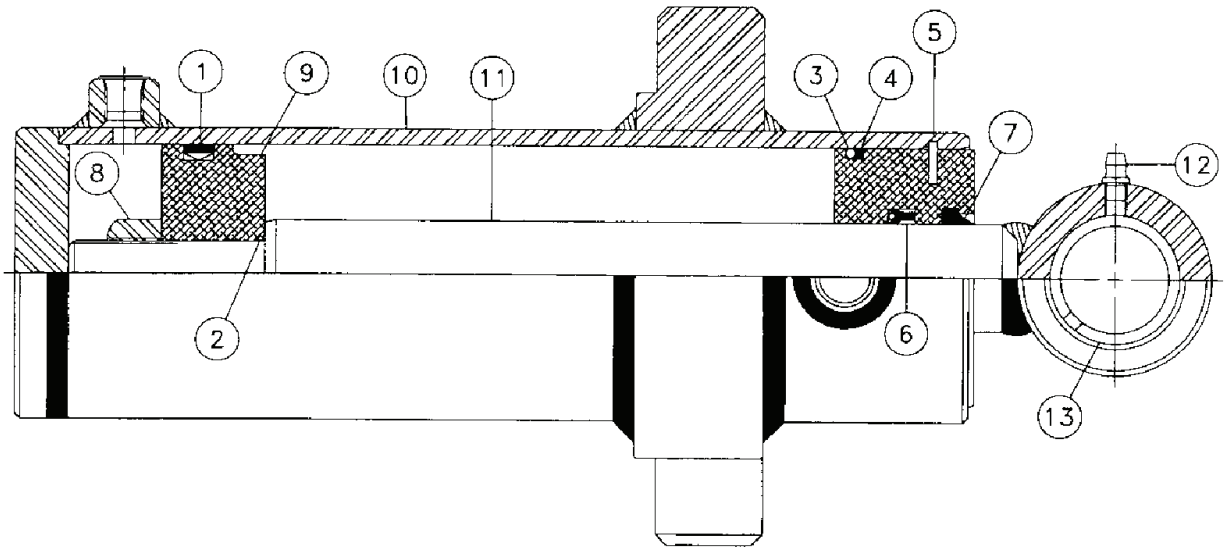
Hyd Cylinder Components - 2 1/2" x 6 5/8" (S/N 101-1775) Fig 11-7r01



Hyd Cylinder Components - 2 1/2" x 6 5/8" (S/N 101-1775) Fig 11-7r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Heading.
1		228165003	PSP SEAL	1	
2		228165005	O-RING	1	
3		228165007	O-RING	1	
4		228165009	WASHER-BACK UP	1	
5		228165011	RING-RETAINING	1	
6		228165013	POLYPAK SEAL	1	
7		228165015	DUST SEAL	1	
8		230977003	NUT	1	
9		228165017	PISTON	1	
10		228165019	BARREL ASSEMBLY	1	
11		228165021	ROD ASSEMBLY	1	
12		598001	FITTING-1/4” NF ST GREASE ZERK	1	
13		1835025	BSHG.-STL.- 1 1/2 X 1 1/4 X 1	2	
		228165001	CYLINDER-2 1/2 X 6 5/8		Includes All Items In Figure
	*	228165023	SEAL KIT		Inc Ref No’s 1-4, & 7

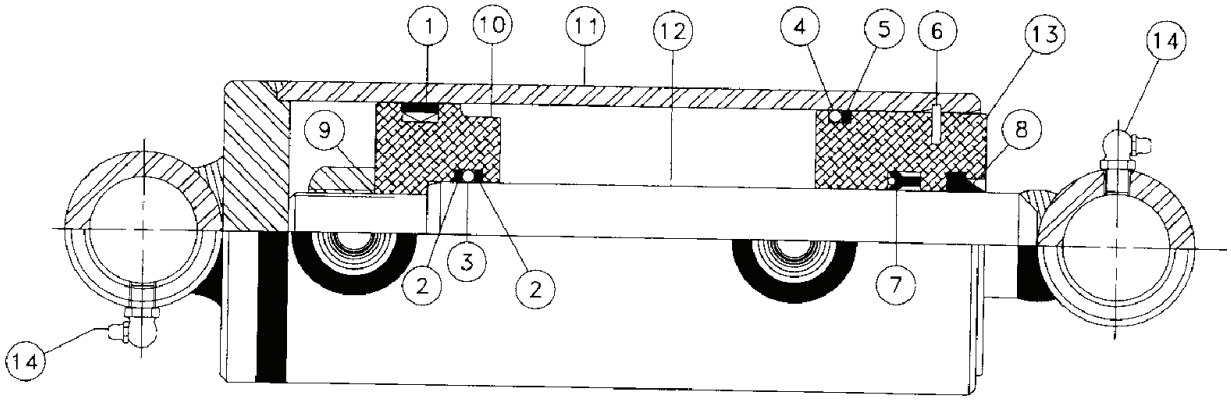
Hyd Cylinder Components - 2 1/2" x 6 5/8" Fig 11-7



Hyd Cylinder Components - 2 1/2" x 6 5/8" Fig 11-7

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		228165003	PSP SEAL	1	
2		228165005	O-RING	1	
3		228165007	O-RING	1	
4		228165009	WASHER-BACK UP	1	
5		228165011	RING-RETAINING	1	
6		228165013	POLYPAK SEAL	1	
7		228165015	DUST SEAL	1	
8		230977003	NUT	1	
9		228165017	PISTON	1	
10		228165019	BARREL ASSEMBLY	1	
11		228165021	ROD ASSEMBLY	1	
12		598001	FITTING-1/4” NF ST GREASE ZERK	1	
13		1835025	BSHG.-STL.- 1 1/2 X 1 1/4 X 1	2	
		228165001	CYLINDER-2 1/2 X 6 5/8		Includes All Items In Figure
		228165023	SEAL KIT		Inc Ref No’s 1-7

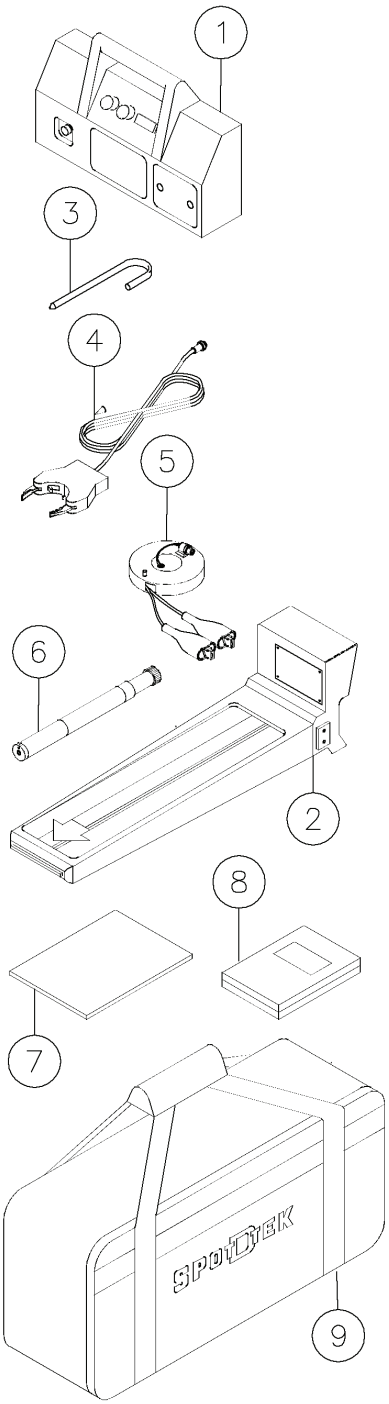
Hyd Cylinder Components - 2 1/2" x 3" Fig 11-8



Hyd Cylinder Components - 2 1/2" x 3" Fig 11-8

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		200769001	UNI-RING 12G-216204-312	1	
2		208177001	WASHER-BACKUP	2	
3		208178001	O-RING	1	
4		51175001	O-RING #228	1	
5		200841001	BACKUP WASHER #228	1	
6		222440009	INTERNAL SNAP RING	1	
7		205001001	1”LOADED U-CUP	1	
8		219111011	ROD WIPER	1	
9		93180007	LOCKOUT .750-16 UNF	1	
10		228021003	PISTON	1	
11		228021005	BODY ASSEMBLY-CYLINDER	1	Inc Ref No’s 14
12		228021007	ROD ASSEMBLY-CYLINDER	1	Inc Ref No’s 14
13		200925001	GLAND	1	
14		597001	ZERK-1/4” NF 90 DEG GREASE	2	
		228021001	CYLINDER-2 1/2 X 3 HYD		Includes All Items In Figure
		228021009	SEAL KIT		Inc Ref No’s 1-8

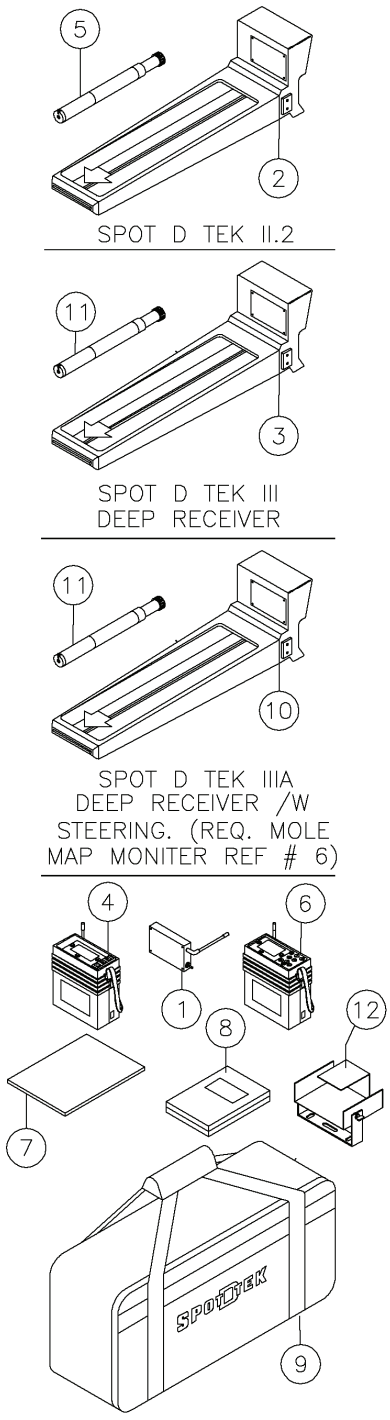
Location Package, SPOT-D-TEK II.2 Utility Fig 12-1



Location Package, SPOT-D-TEK II.2 Utility Fig 12-1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		213900003	TRANSMITTER FOR SPOT D TEK II	1	
		213900019	SUNSCREEN FOR TRANSMITTER	1	
2		215941001	RECEIVER II.2	1	
3		213900013	GROUND STAKE-SPOT D TEK II	1	
4		213900007	EXTERNAL COIL - SPOT D TEK II	1	
5		213900015	DIRECT CONNECTION CABLE	1	
6		215942001	DIR. PROBE II.2 W/ BATTERRIES	1	Breakdown Fig. 12-4
7		215938003	OPERATIONAL MANUAL	1	
8		213900021	VIDEO TAPE	1	
9		213900009	CASE FOR SPOT D TEK II	1	
		215938001	SPOT D TEK II.2 UTILITY LOC. PCK		Inc Ref No's 1-9
			ACCESSORIES		
		213900023	SUNSCREEN-RECEIVER/II.2 MONITOR		
		213900025	RAINCOVER-RECEIVER		

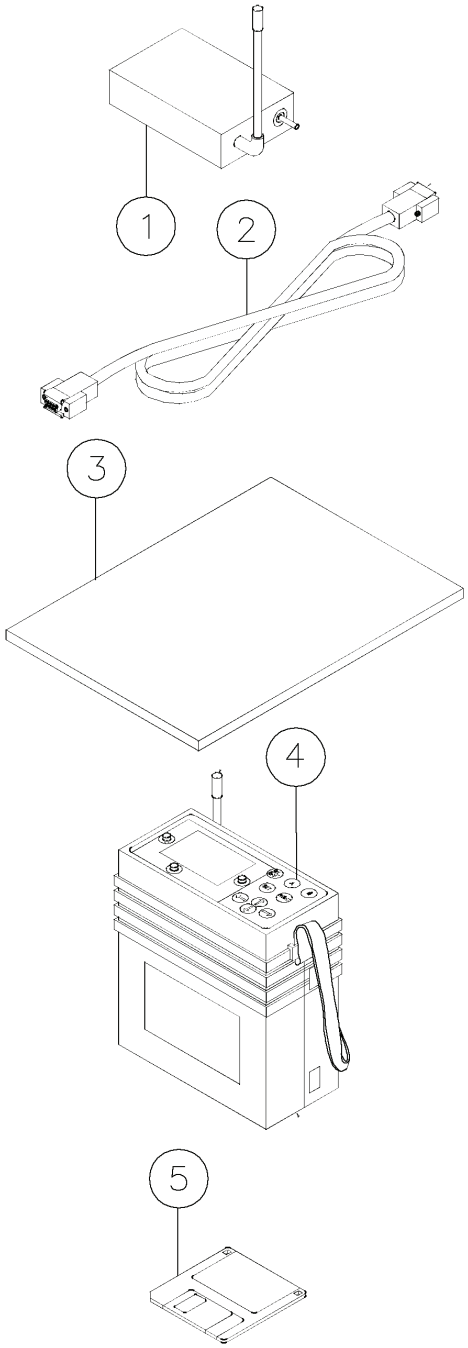
Location Package, SPOT-D-TEK II.2, III & IIIA Fig 12-2



Location Package, SPOT-D-TEK II.2, III & IIIA Fig 12-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		213902005	WIRELESS TRANSMITTER	1	
2		215941001	RECEIVER II.2	1	
3		231197003	RECEIVER-III	1	
4		215943001	WIRELESS MONITOR II.2	1	
5		215942001	DIR.PROBE II.2	1	Breakdown Fig. 12-4
6		231109001	MONITOR - MOLE MAP	1	
7		215938003	OPERATIONAL MANUAL	1	
8		215940003	VIDEO TAPE-INSTRUCTIONAL	1	Locating W/Probes
9		213900009	CASE FOR SPOT D TEK II	1	
10		231111003	RECEIVER-IIIA	1	
11		231110001	SPOT-D-TEK DEEP SONDE	1	Breakdown Fig. 12-5
12		244935001	HOLDER ASSY.-REMOTE MONITOR	1	
		215940001	SPOTDTEK II.2 REMOTE MON. PKG.		Inc Ref No's 1 & 4
		215939001	SPOTDTEK II.2 DIRECT.BORE PKG.		Inc Ref No's 2, 5 & 7-9
		231197001	SPOT-D-TEK III DEEP RECEIVER		Inc Ref No's 3 & 7-9
		231111001	SPOT-D-TEK IIIA DEEP REC W/REM (LOC094)		Inc Ref No's 7-9 & 10
			ACCESSORIES		
		216871001	ANTENNA-TRANSMITTER/MONITOR		
		213900023	SUNSCREEN-RECEIVER II.2 MONIT		
		213900025	RAINCOVER-RECEIVER		
		213902011	RAINCOVER-II.2 MONITOR		
		238762001	SUNSCREEN-MOLE MAP MONITOR		
		238763001	RAIN COVER-MOLE MAP MONITOR		

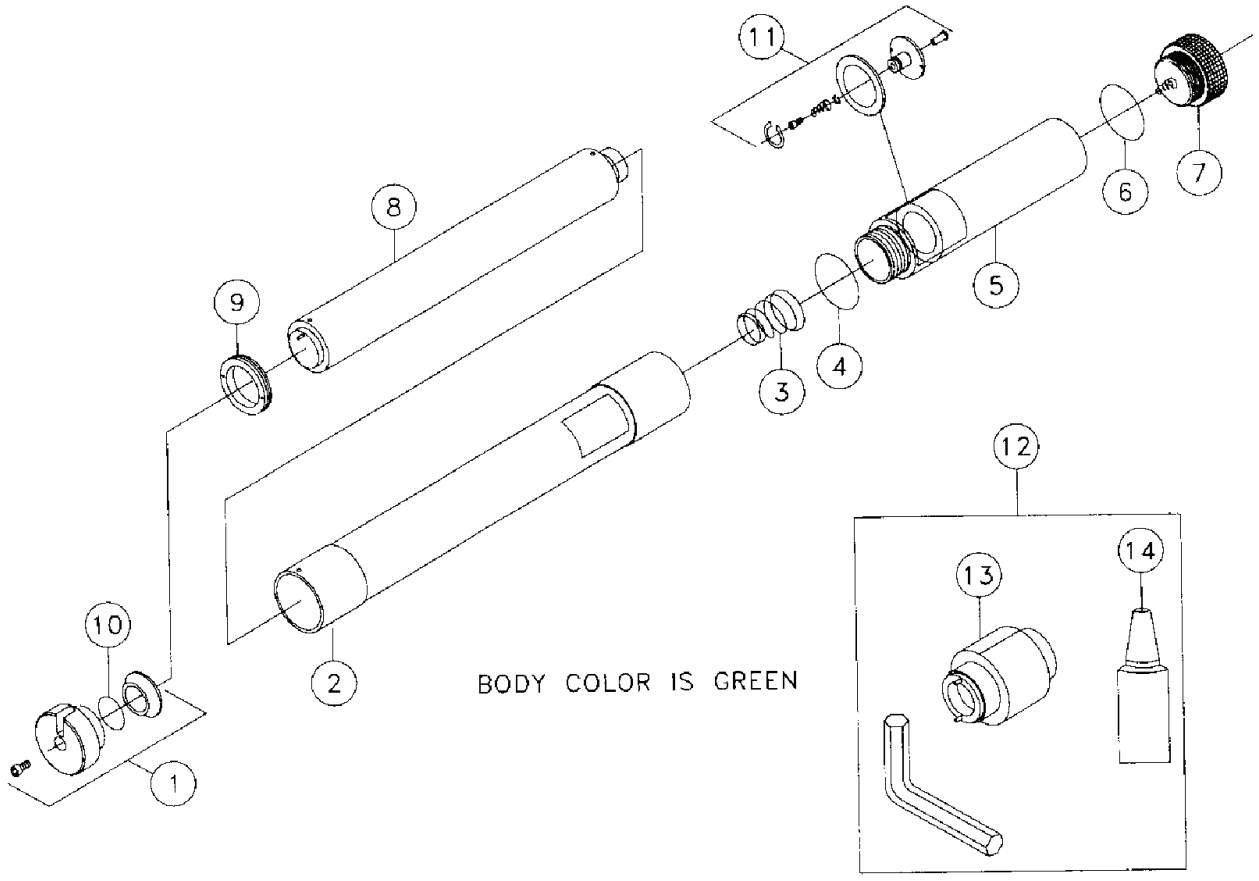
Location Package, SPOT-D-TEK Mole Mapping System Fig 12-3



Location Package, SPOT-D-TEK Mole Mapping System Fig 12-3

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		213902005	WIRELESS TRANSMITTER	1	Inc Ref No 3
2		231109005	COMPUTER CORD	1	
3		231109007	OPERATIONAL MANUAL	1	
4		231109001	MONITOR-MOLE MAP	1	
5		231109003	MAPPING SOFTWARE REPLACE DISK	1	
		231113001	MAPPING SYSTEM COMPLETE		Inc Ref No's 1-5
			ACCESSORIES		
		238763001	RAIN COVER-MOLE MAP MONITOR		
		238762001	SUNSCREEN-MOLE MAP MONITOR		
		216871001	ANTENNA-TRANSMITTER/MONITOR		

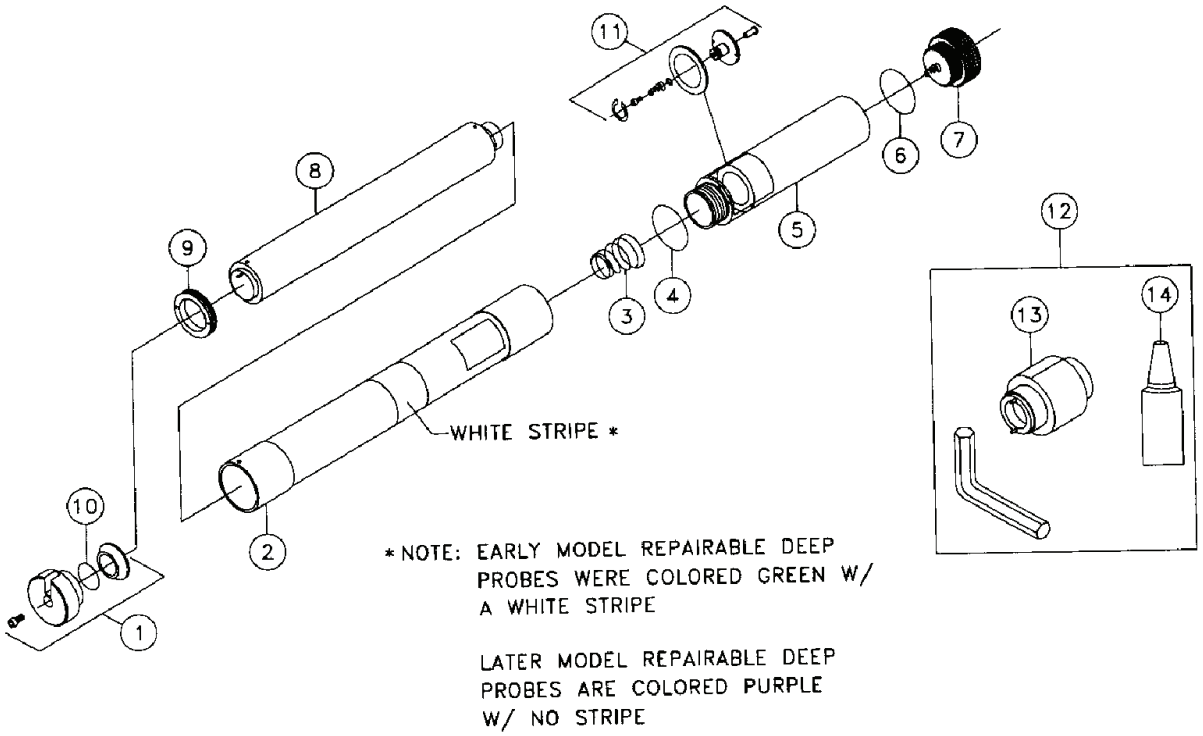
SPOT-D-TEK II.2 Directional Probe (Repairable) Components Fig 12-4



SPOT-D-TEK II.2 Directional Probe (Repairable) Components Fig 12-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		215942003	SLOTTED HEAD ASSEMBLY	1	
2		215942005	FIBER PROBE BODY 11.2	1	
3		215942007	SPRING - SUSPENSION	1	
4		215942009	O-RING	1	
5		215942011	BATTERY COMPARTMENT ASSEMBLY	1	
6		215942013	O-RING	1	
7		215942015	BATTERY CAP ASSEMBLY	1	
8		215942017	SOLID STATE ELEC. CAPSULE 11.2	1	
9		215942019	ROUND SET NUT	1	
10		215942021	O-RING	1	
11		215942023	BATTERY CONTACT ASSEMBLY	1	
12		215942025	MAINTENANCE TOOL KIT	1	
13		215942027	TOOL-CAPSULE LINE-UP	1	
14		215942029	SEALANT-SILICONE	1	
		215942001	DIR.PROBE II.2 (LOC100)		Includes All Items In Figure

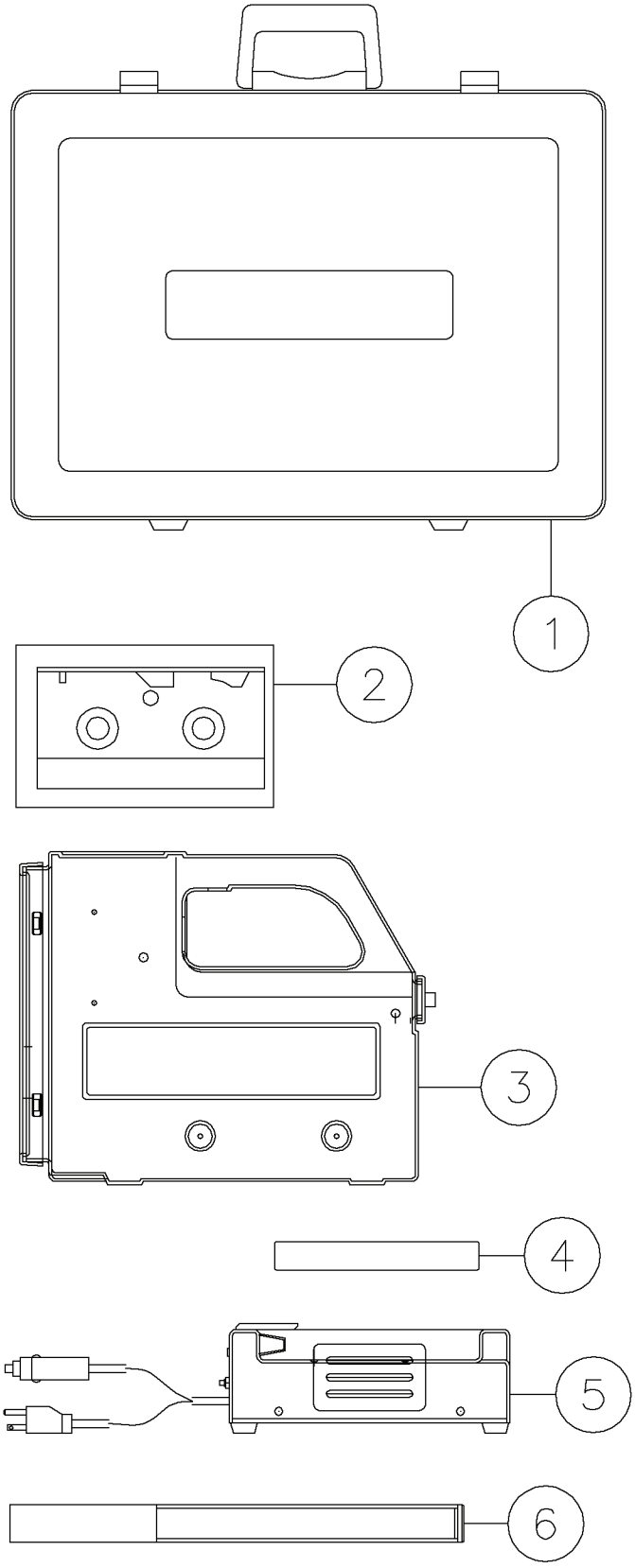
SPOT-D-TEK II.2 Deep Sonde (Repairable) Components Fig 12-5



SPOT-D-TEK II.2 Deep Sonde (Repairable) Components Fig 12-5

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		215942003	SLOTTED HEAD ASSEMBLY	1	
2		231110003	FIBER PROBE BODY 11.2 (DEEP)	1	
3		215942007	SPRING - SUSPENSION	1	
4		215942009	O-RING	1	
5		215942011	BATTERY COMPARTMENT ASSEMBLY	1	
6		215942013	O-RING	1	
7		215942015	BATTERY CAP ASSEMBLY	1	
8		231110005	SOLID STATE ELECT CAPSULE 11.2	1	
9		215942019	ROUND SET NUT	1	
10		215942021	O-RING	1	
11		215942023	BATTERY CONTACT ASSEMBLY	1	
12		215942025	MAINTENANCE TOOL KIT	1	
13		215942027	TOOL-CAPSULE LINE-UP	1	
14		215942029	SEALANT-SILICONE	1	
		231110001	SPOT-D-TEK DEEP SONDE		Includes All Items In Figure

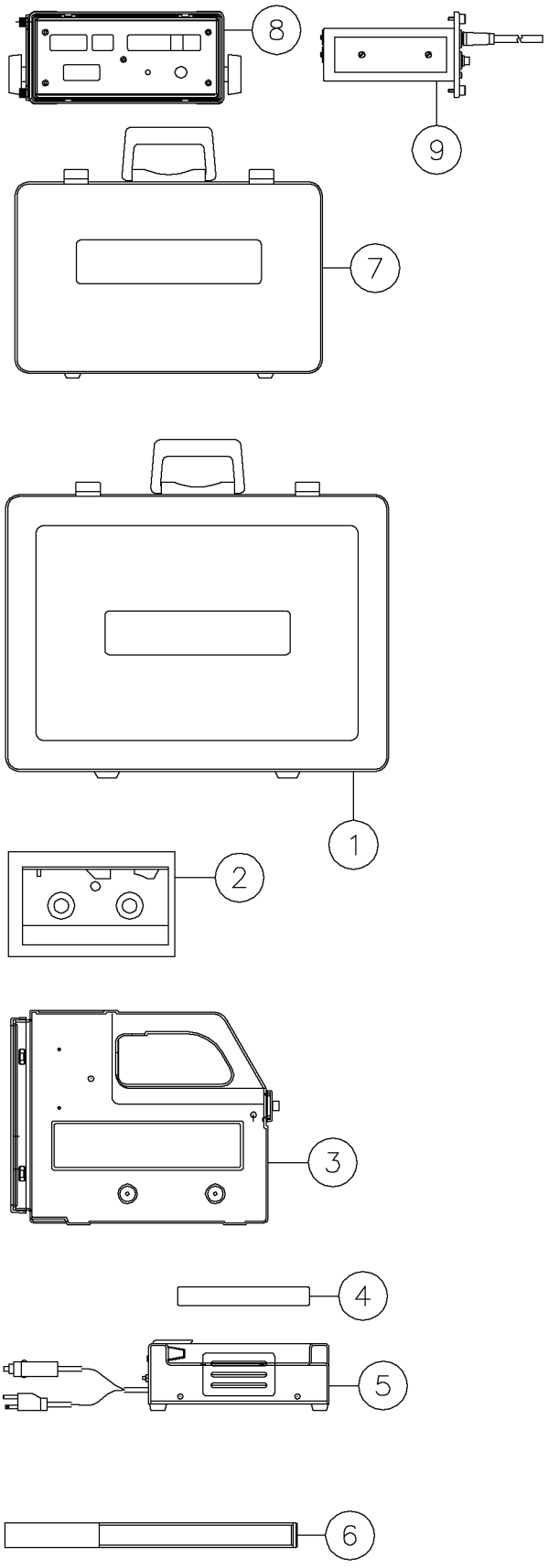
Location Package, MARK III - DIGITRAK - Dom & Int Fig 13-1



Location Package, MARK III - DIGITRAK - Dom & Int Fig 13-1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		213389011	DIGITRAK CARRYING CASE	1	
2		231990001	DIGITRAK OP. MAN. TRAIN VIDEO	1	
3		231991001	DIGITRAK RECEIVER-ENGLISH/METR	1	
4		213389009	DIGITRAK BATTERY PACK	2	
5		213389007	DIGITRAK SMART CHARGER115/230V	1	
6		221806001	SONDE-15’ BLUE	1	
		213389005	SONDE - 30’ YELLOW	1	
		221643001	SONDE-50’ RED	1	
		226196001	SONDE-50’ RED (4-BATT.)	1	
		213086001	O-RING #122	3	
		231212001	DIGITRAK STD.LOCATOR(US/CAN)		Inc Ref No’s 1-5

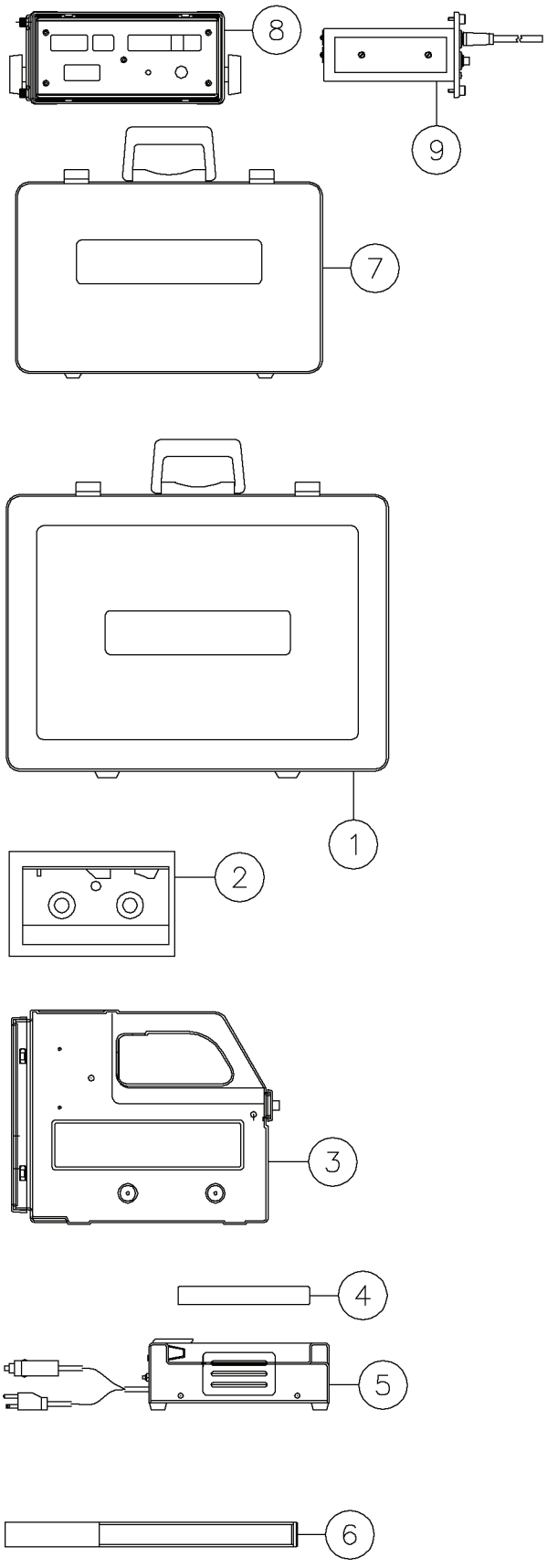
Location Package, MARK III - DIGITRAK (W/Remote Display) Dom Fig 13-2



Location Package, MARK III - DIGITRAK (W/Remote Display) Dom Fig 13-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Note: [A]	Quantity Required For Standard Sonde		
		Note: [B]	Quantity Required For Cable Sonde		
1		213389011	DIGITRAK CARRYING CASE	1	[A] [B]
2		231990001	DIGITRAK OP. MAN. TRAIN VIDEO	1	[A] [B]
3		231992001	RECEIVER W/REMOTE ENGLISH/METR	1	[A] [B]
4		213389009	DIGITRAK BATTERY PACK	2	[A]
5		213389007	DIGITRAK SMART CHARGER115/230V	1	[A]
6		221806001	SONDE-15’ BLUE	1	[A]
		213389005	SONDE-30’ YELLOW	1	[A]
		221643001	SONDE-50’ RED	1	[A]
		226196001	SONDE-50’ RED (4-BATT.)	1	[A]
		226197001	SONDE -50’ .1P MAGENTA	1	[A]
		226198001	SONDE-50’ .1P MAGENTA (4-BATT.)	1	[A]
		226199001	SONDE-100’ CABLE GREEN	1	[B]
		226200001	SONDE-100’ CABLE .1P GREEN	1	[B]
		213086001	O-RING #122	3	[A] [B]
7		221658001	REMOTE CARRYING CASE	1	[A] [B]
8		231993001	DIGITRAK REMOTE DISPLAY	1	[A] [B]
		231994001	REMOTE DISPLY FOR CABLE SONDE	1	[B]
9		226195001	CABLE SONDE POWER SUPPLY	1	[B]
		231218001	DCI REMOTE LOCATOR SYS(US/CAN)		Inc Ref No’s No’s 1-5, 7 & 8
		231221001	DCI REM CABLE SONDE SYS(US/CAN)		Inc Ref No’s No’s 1-3 & 7-9

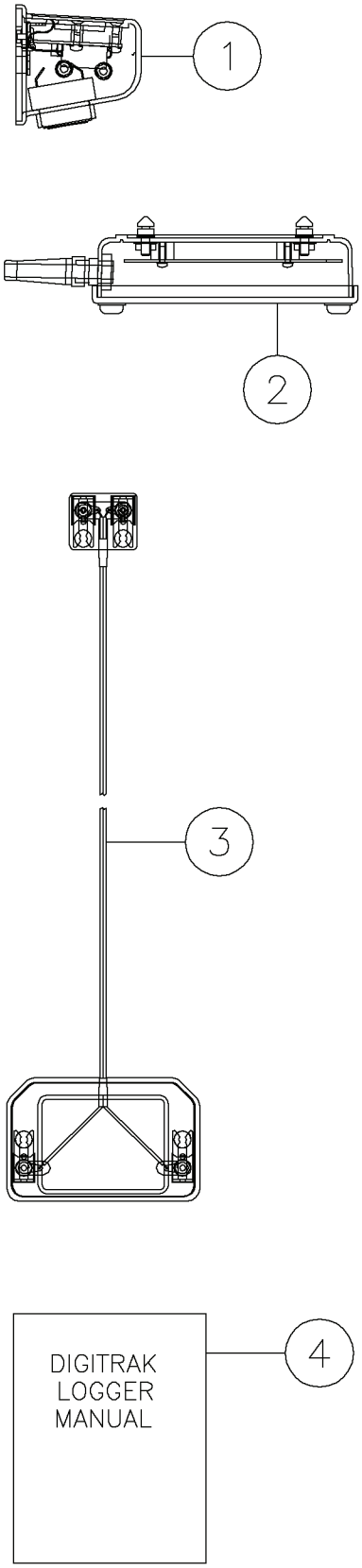
Location Package, MARK III - DIGITRAK (W/Remote Display) Int Fig 13-3



Location Package, MARK III - DIGITRAK (W/Remote Display) Int Fig 13-3

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Note: [A]	Quantity Required For Standard Sonde		
		Note: [B]	Quantity Required For Cable Sonde		
1		213389011	DIGITRAK CARRYING CASE	1	[A] [B]
2		231990001	DIGITRAK OP. MAN. TRAIN VIDEO	1	[A] [B]
3		231995001	RECEIVER W/REMOTE FUNCTION AU	1	[A] [B]
		231996001	RECEIVER W/REMOTE FUNCTION UK	1	[A] [B]
4		213389009	DIGITRAK BATTERY PACK	2	[A]
5		213389007	DIGITRAK SMART CHARGER115/230V	1	[A]
6		221806001	SONDE-15’ BLUE	1	[A]
		213389005	SONDE-30’ YELLOW	1	[A]
		221643001	SONDE-50’ RED	1	[A]
		226196001	SONDE-50’ ED (4 BATT.)	1	[A]
		226197001	SONDE -50’ .1P MAGENTA	1	[A]
		226198001	SONDE-50’ .1P MAGENTA (4-BATT.)	1	[A]
		226199001	SONDE-100’ CABLE GREEN	1	[B]
		226200001	SONDE-100’ CABLE .1P GREEN	1	[B]
		213086001	O-RING #122	3	[A] [B]
7		221658001	REMOTE CARRYING CASE	1	[A] [B]
8		231997001	REMOTE DISPLAY AU	1	[A]
		231998001	REMOTE DISPLAY FOR CBLE SOND AU	1	[A] [B]
		231999001	REMOTE DISPLAY UK	1	[A]
		238750001	REMOTE DISPLAY FOR CABLE SOND UK	1	[A] [B]
9		226195001	CABLE SONDE POWER SUPPLY	1	[A]
		231219001	DCI REMOTE LOCATOR SYS (AU)		Inc Ref No’s 1-5, 7 & 8
		231222001	DCI REM CABLE SONDE SYS (AU)		Inc Ref No’s 1-3 & 7-9
		231220001	DCI REMOTE LOCATOR SYS (UK)		Inc Ref No’s 1-5, 7 & 8
		231223001	DCI REM CABLE SONDE SYS (UK)		Inc Ref No’s 1-3 & 7-9

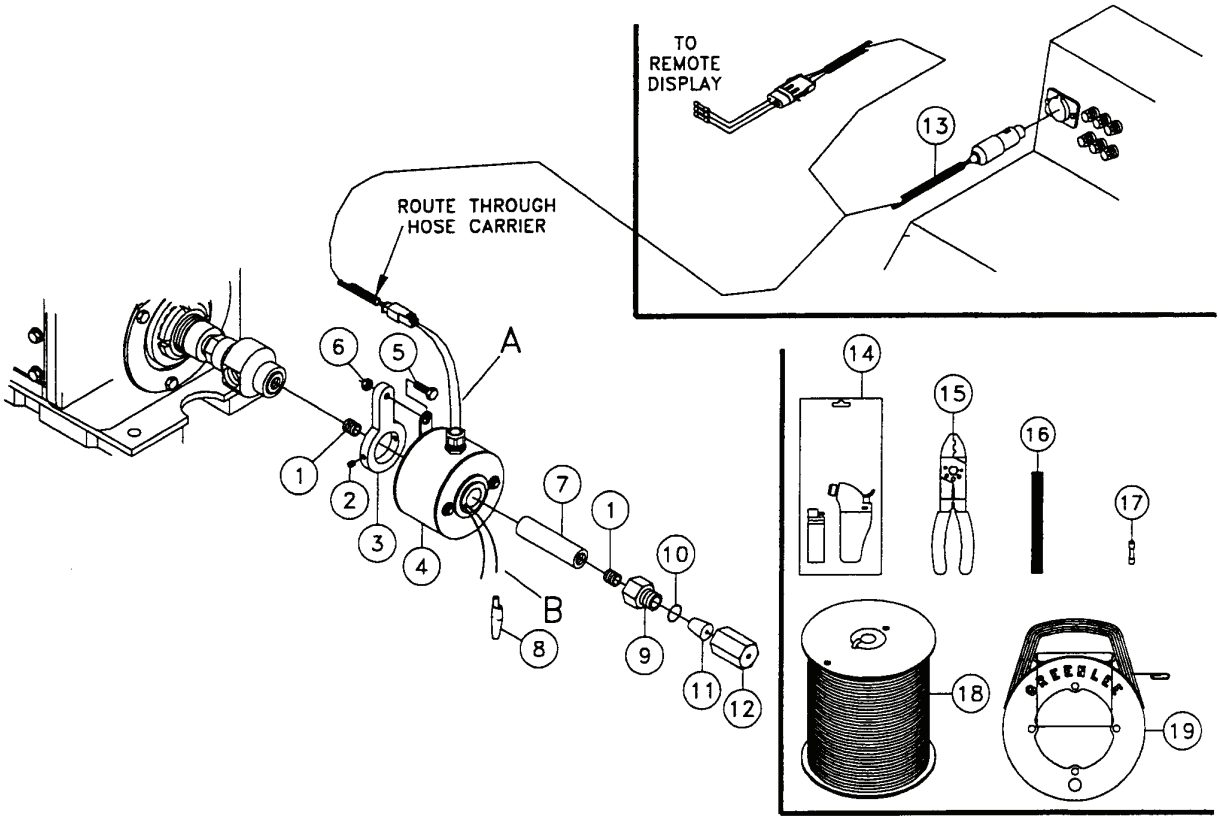
Data Logger, MARK III - DIGITRAK Fig 13-4



Data Logger, MARK III - DIGITRAK Fig 13-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		231224001	DATA LOGGER MODULE	1	
2		231228001	DATA-LOG/PC INTERFACE	1	Inc Ref No's 3 & 4
3		238751001	DATA LOG REAL TIME CABLE	1	
4		238752001	DIGITRAK LOGGER MANUAL	1	

Cable Sonde Accessory Assy Fig 13-5r02

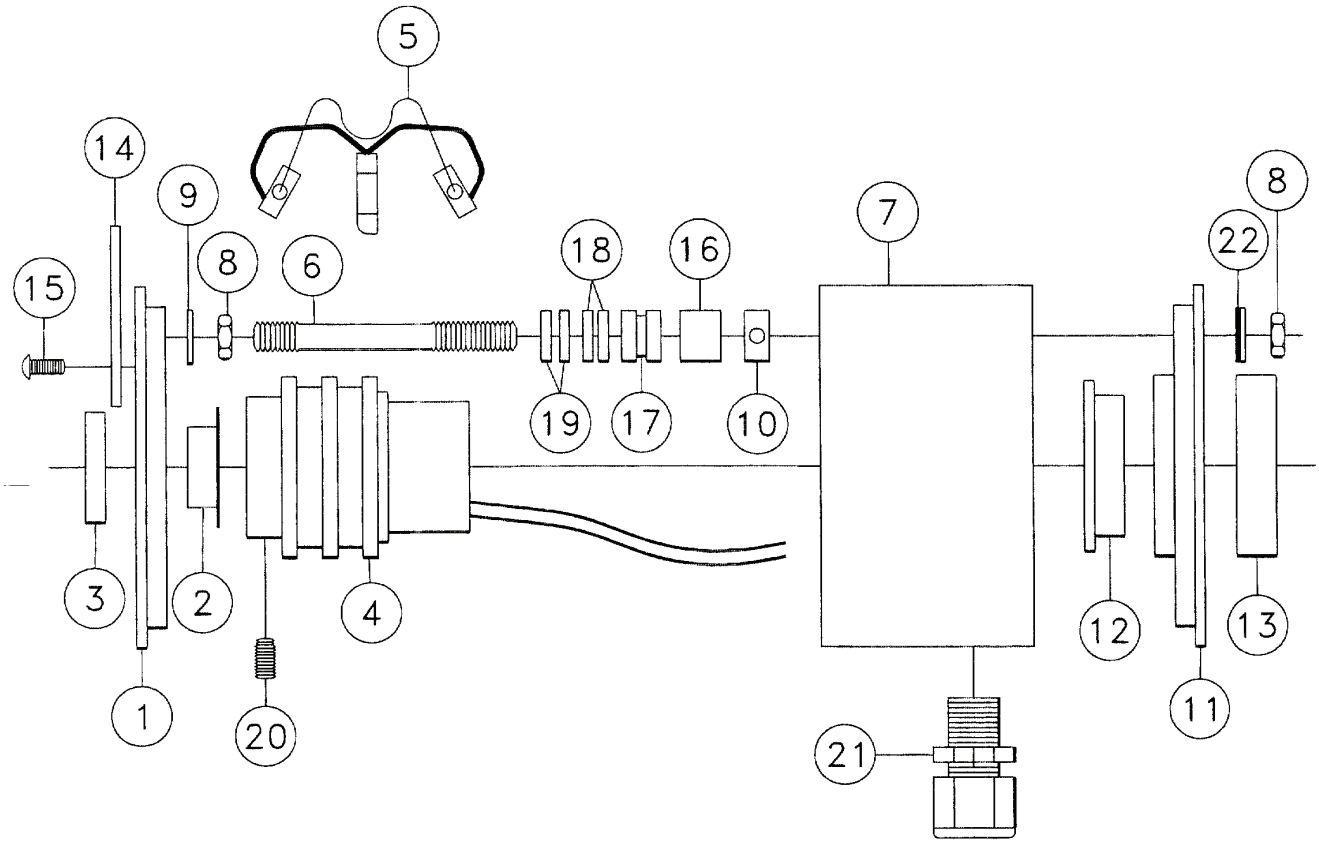


Cable Sonde Accessory Assy Fig 13-5r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	November, 1999		Update In Illustration & Parts List.
1		736003	3/8 CLOSE NIPPLE BLACK STEEL REF T01179	2	
2		523001	SSS-1/4-20X3/8	2	
3		234926001	MOUNT ANTI-ROTATION	1	
4		234929001	SLIP RING - 2 CIRCUIT	1	Breakdown Fig 13-6
5	*	279376001	BOLT - 5/16-18X1 1/2 GR8 HEX ZNC PLT	1	
6		240333001	NUT-5/16-18 GR8 TL ZINC PLTD	1	
7		234895001	SHAFT - SPOOL MOUNT	1	
8		250022001	CLIP-ALLIGATOR/RED	3	
9		234887001	BASE-COMPRESSION FITTING	1	
10		792029	O-RING	1	
11	*	234957001	STOPPER- COMP.FITTING 12GA	3	
12		234888001	COVER-COMPRESSION FITTING	1	
13		279344001	WIRE HARNESS - D24X40A WIRELINE	1	
14		234856010	MICRO-TORCH	1	
15		234857001	CRIMPER	1	
16	*	279380001	HEAT SHRINK - 3/8 DIA. X 6” LONG, QTY 20	A/R	P/N Qty Of 1 = 20 Each, 20 Required
17	*	279378001	BUTT CONNECTOR - 10/12GA W/O HEAT SHRINK	100	
18		240529001	WIRE-10 GA. RED 500’ (THHN)	1	
19	*	279379001	STEEL FISH TAPE 1/8” DIA. X 50’ W/ WINDER CASE	1	
		234862001	CABLESONDE ACCESSORY ASSY		Includes All Items In Figure

Slip Ring Components Fig 13-6

Revised September 1999 due to addition of figure to manual.

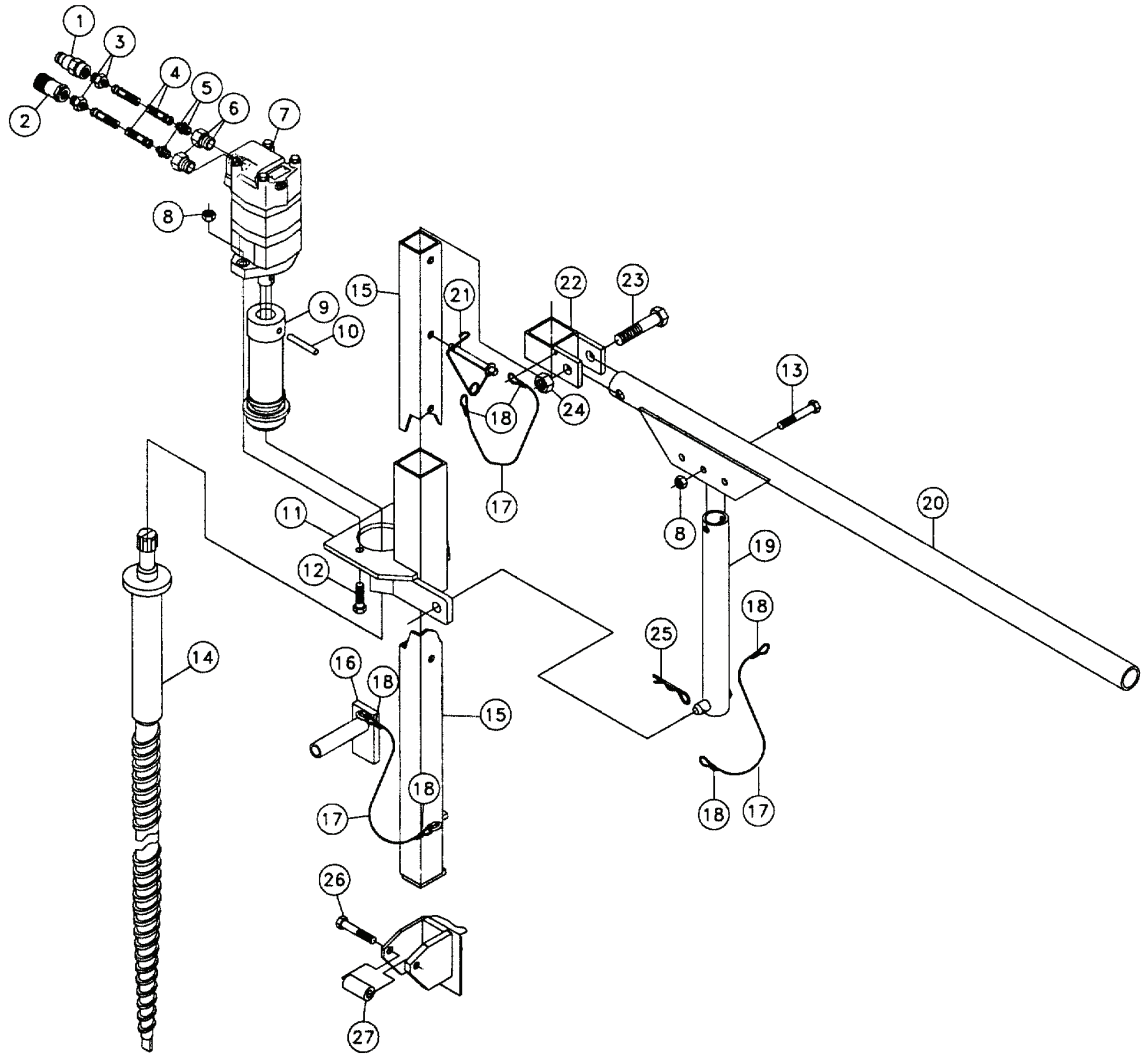


Slip Ring Components Fig 13-6

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 1999		Addition To Manual
1		234929003	BASE-SLIP RING	1	
2		234929005	BEARING-NYLON	1	
3		234929007	SEAL-GREASE	1	
4		234929009	CORE ASSEMBLY	1	Inc Ref No 20
5		234929011	BRUSH ASSEMBLY	2	
6		234929013	STUD-5/16-18 X 3 1/4	2	
7		234929015	COVER-PVC	1	
8		407001	NUT-5/16 NC HEX JAM	4	
9		485005	WASHER-5/16 FLAT	2	
10		234929017	COLLAR-5/16” SET	2	
11		234929019	PLATE-END	1	
12		234929021	BEARING-.05” IGUS	1	
13		234929023	SEAL-SHAFT	1	
14		234929025	BRACKET-TORQUE	2	
15		57200001	SCREW-#8-32X1/2 RND.HD.MACH.	1	
16		234929027	SPACER-.5 WIDE	2	
17		234929029	SPACER-GROOVED	2	
18		234929031	SPACER-.082 WIDE	4	
19		234929033	SPACER- .125 WIDE	4	
20		234929035	CONNECTOR-PLASTIC	2	
21		234929037	WASHER-SEALING	1	
22		234929039	WASHER-SEALING	2	
		234929001	SLIP RING - 2 CIRCUIT		Includes All Items In Figure

Power Stake Down Assy Fig 14-1r02

Revised February 2000 due to update in illustration.

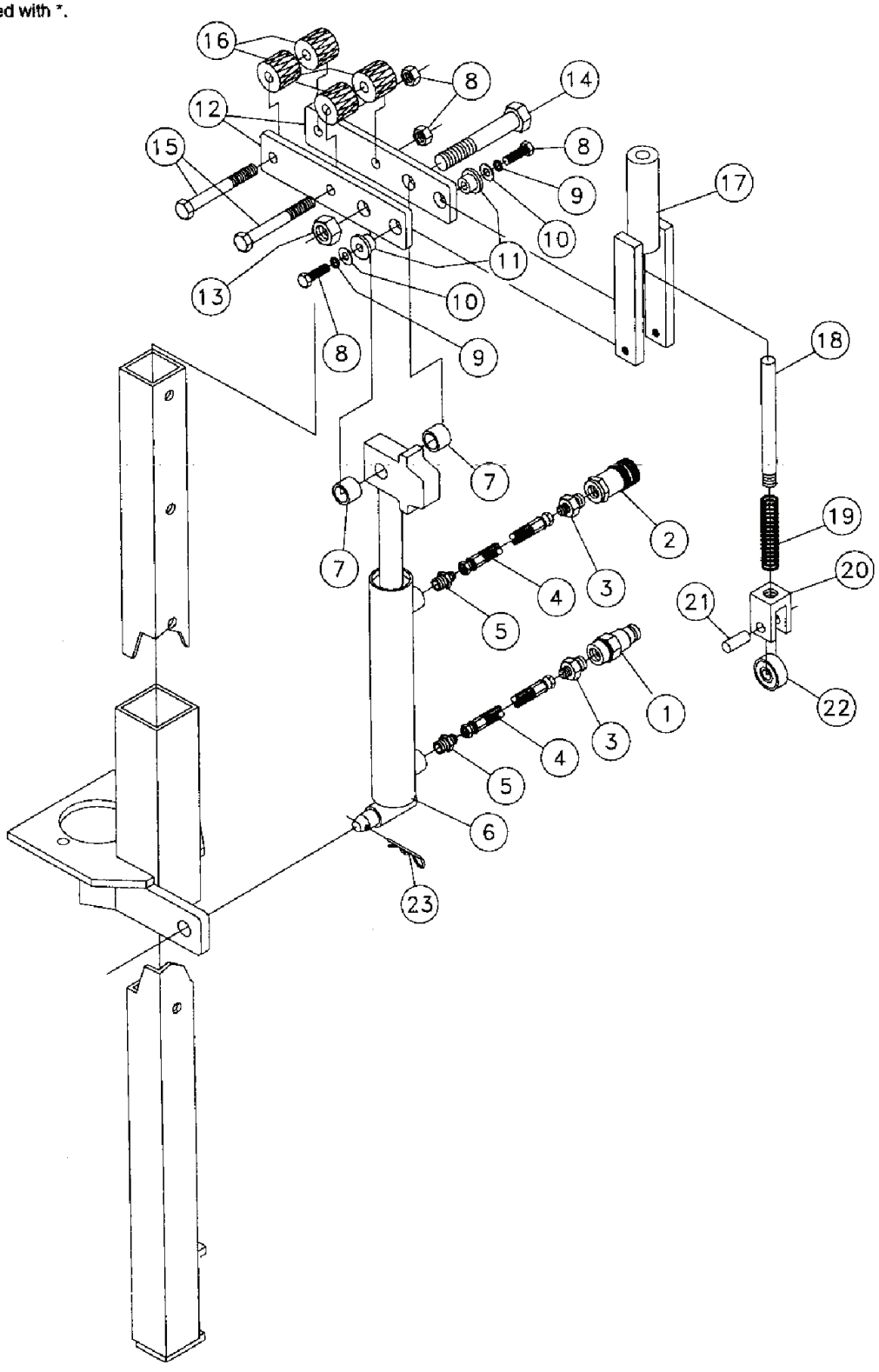


Power Stake Down Assy Fig 14-1r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Illustration
1		221503001	COUPLER-3/8 NPT QUICK (MALE)	1	
2		221504001	COUPLER-3/8 NPT QUICK (FEM)	1	
3		93707001	FITTING-4M JICX 3/8M NPT STR.	2	
4		53843099	HOSE-1/4X210 4FS JIC (100R1)	2	
5		57968001	FITTING-STR-4MJ-6MORB	2	
6		57967001	FITTING - STR - 10MORB - 6FORB	2	
7		228514001	MOTOR-2000 SERIES 24 CID	1	Breakdown Fig 14-4
8		250512001	NUT- 1/2 NC Gr8 TOP LOCK Y/ ZINC	3	
9		228511001	COUPLER-1 1/4" DRIVE	1	
		75814041	Q.D. COLLAR KIT #381908	1	Includes Brass Collar, Snap Ring & Three Balls
10		228516001	PIN-3/8X2 1/2 TYPE A GROOVED	1	
11		225016001	MOUNT-MOTOR	1	
12		250334001	BOLT-1/2-13X1 3/4 GRADE #8 HEX ZINC PLT	2	
13		235724001	BOLT-1/2-13X3 GR8 HEX ZINC PLT	1	
14		228504001	STAKE-4 FT. EARTH	4	
15		228509001	TUBE-STAKING	1	
16		225019001	BAR-LOCK	1	
17		1830007	HINGE PIN CABLE	AR	P/N Qty Of 1 = 1 Foot
18		1838001	CONNECTOR-WIRE (ETC)	6	
19		228526001	LINK	1	
20		228529001	HANDLE	1	
21		103734001	LYNCH PIN - 1/2 X 3 1/2	1	
22		228524001	COLLAR	1	
23		250610001	REPLACED BY 124620034	1	
24		250510001	NUT 3/4 NC Gr8 SLTL Y/ZINC	1	
25		1794003	HAIR PIN COTTER - .148 WIRE REF TR00152	1	
26		235744001	BOLT-1/2-13X2 3/4 GR8 ZNC PLTD	1	
27		1081049	TUBE-1"ODX9/16"IDX2 1/16	1	

Cylinder Assist - Power Stake Down Fig 14-2r01

Revised February 1999 due to update in parts list. Changed parts marked with *.

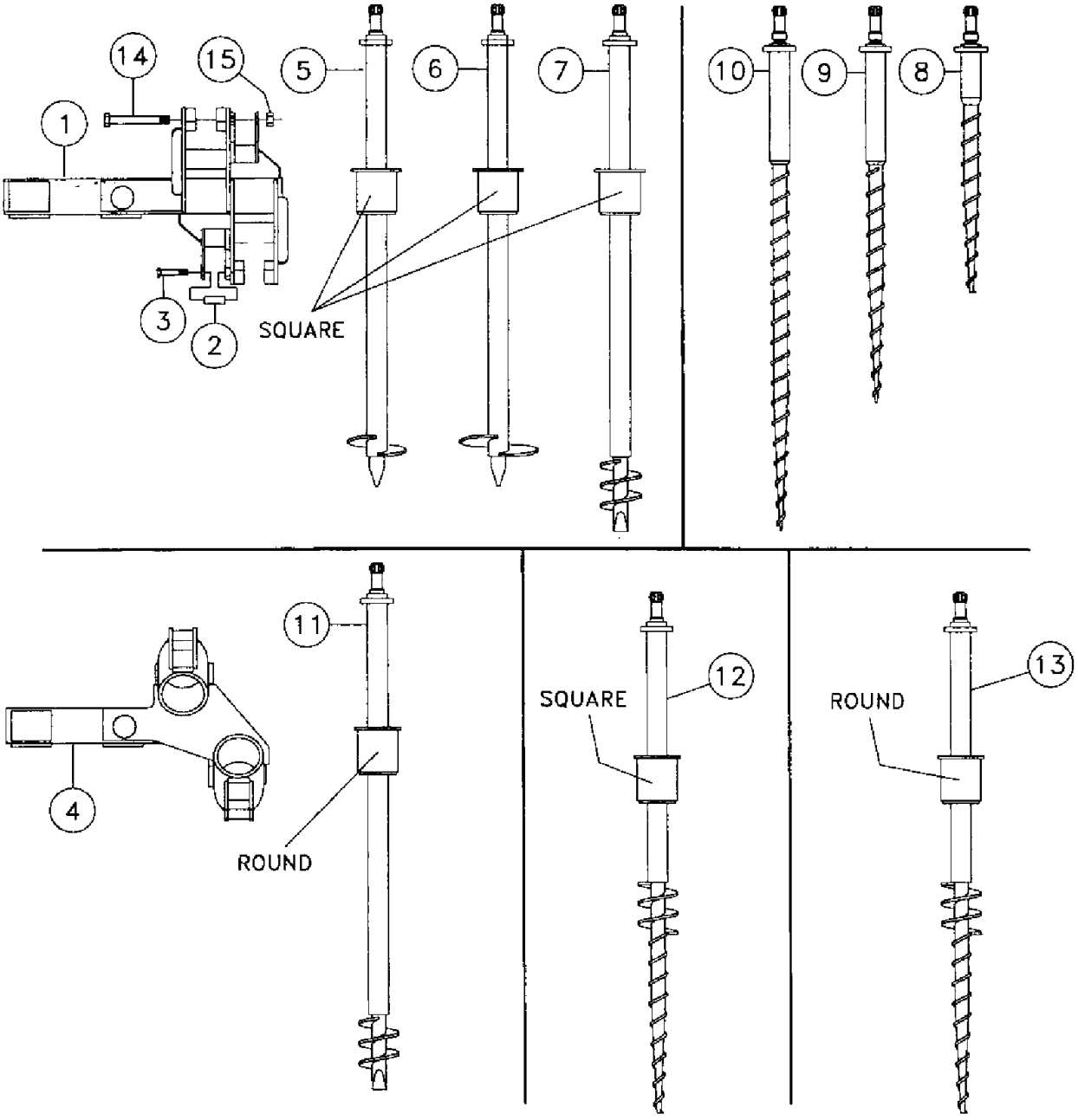


Cylinder Assist - Power Stake Down Fig 14-2r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List
1		221503001	COUPLER-3/8 NPT QUICK (MALE)	1	
2		221504001	COUPLER-3/8 NPT QUICK (FEM)	1	
3		93707001	FITTING-4M JICX 3/8M NPT STR.	2	
4		53843099	HOSE-1/4X210 4FS JIC (100R1)	2	
5		57968001	FITTING-STR-4MJ-6MORB	2	
6		224589001	CYLINDER 1 1/2 X 8 HYD	1	Breakdown Fig 14-5
7	*	1088103	TUBE-RND1 1/4ODX13/16ID-.70	2	
8	*	235726001	BOLT-3/8-16X3/4 GR8 HEX ZNCPLT	2	
9	*	235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	2	
10	*	250512001	NUT- 1/2 NC Gr8 TOP LOCK Y/ ZINC	2	
11		225038001	BUSHING-PIVOT	2	
12		220998001	LOCK-ROLLER	2	
13	*	250510001	NUT 3/4 NC Gr8 SLTL Y/ZINC	1	
14	*	235738001	BOLT-3/4-10X4 1/2 GR8 ZNC PLT	1	
15	*	238244001	BOLT 1/2”-13 X 4”GR8 HEX Y/ZIN	2	
16		905341001	ROLLER	4	
17		220993001	BRACKET-ROLLER MOUNT	1	
18		220999001	GUIDE-ROLLER	1	
19		1803015	SPRING - COMP. #39 3 1/2” OA	1	
20		220992001	MOUNT-ROLLER	1	
21		224579001	ROLL PIN- 1/2 X 1 1/4	1	
22		1732003	BEARING-BALL 1/2 ID X 1 1/2 OD	1	
23		1794003	HAIR PIN COTTER - .148 WIRE	1	

Stake Assy Fig 14-3r01

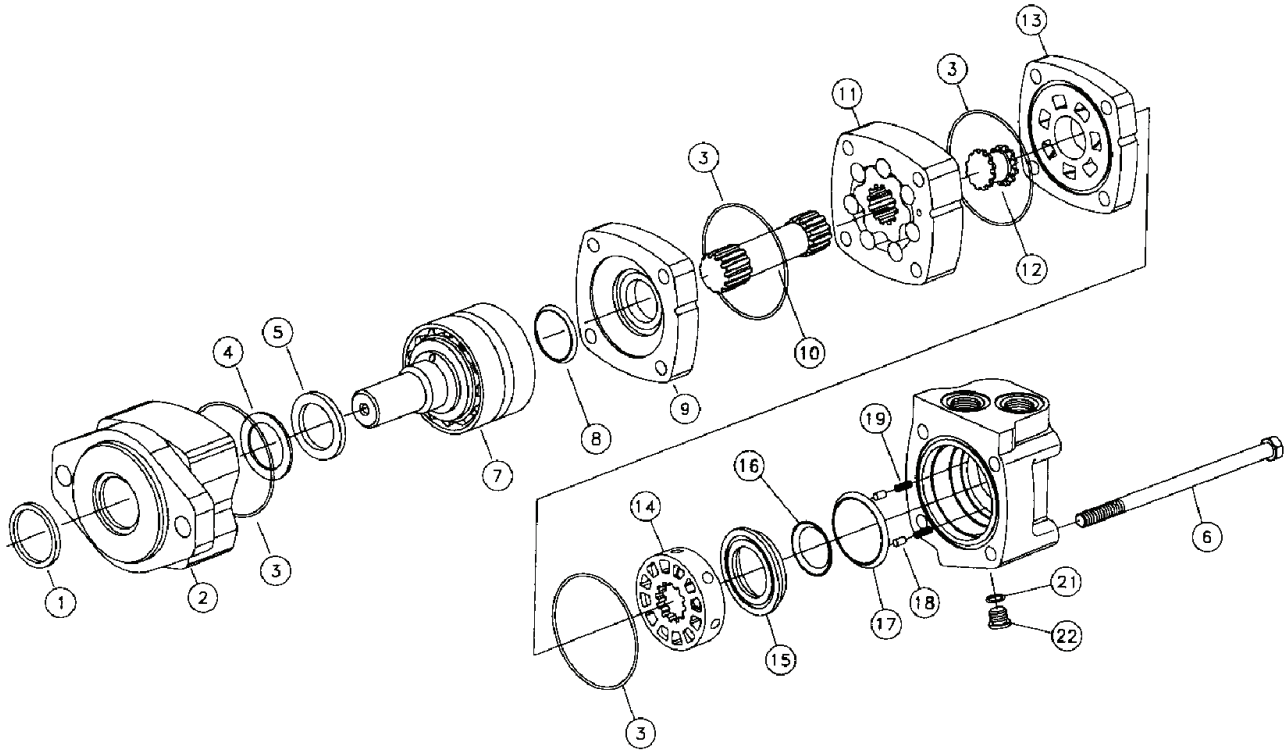
Revised February 1999 due to update in parts list. Changed parts marked with *.



Stake Assy Fig 14-3r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Update In Parts List.
1		220927001	EAR-LARGE ANCHOR	1	
2		1081049	TUBE-1”ODX9/16”IDX2 1/16	1	
3	*	235744001	BOLT-1/2-13X2 3/4 GR8 ZNC PLTD	1	
4		228537001	MOUNT-STAKE	1	
5		226019001	6” DELUXE SAND STAKE	1	
6		220938001	8” DELUXE SAND STAKE	1	
7		228506001	STAKE-4” FLIGHT SQ CAN	1	
8		228547001	STAKE-2 FEET EARTH	1	
9		228533001	STAKE-3 FT. EARTH	1	
10		228504001	STAKE-4 FT. EARTH	1	
11		228505001	STAKE-4” FLIGHT RND CAN	1	
12		228551001	STAKE-SQ.CAN 4” TAPER FLT	1	
13		228550001	STAKE-RND CAN 4” TAPER FLT	1	
14	*	238885001	BOLT-3/4-16 X 6 HHCS ZY	2	
15	*	235739001	NUT-3/4-10 GR8 ZINC PLTD	2	

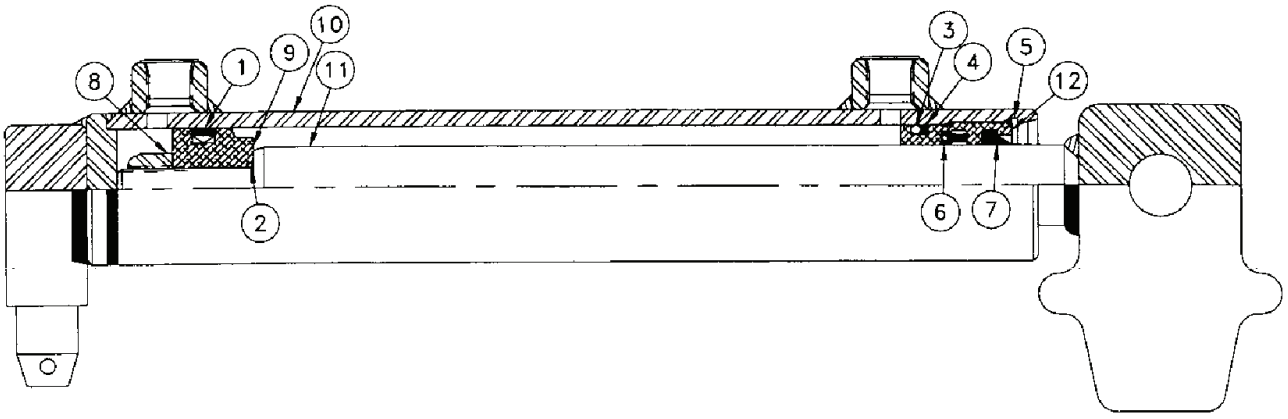
Hyd Motor Components Fig 14-4



Hyd Motor Components Fig 14-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		770071	SEAL-DUST	1	
2		770073	HOUSING-BEARING	1	
3		770007	SEAL-O RING 9022-6	4	
4		770009	WASHER-BACKUP 7382	1	
5		770075	SEAL-SHAFT	1	
6		70020007	BOLT	4	
7		228514003	SHAFT AND BEARING KIT-1 1/4	1	
8		770017	SEAL-SHAFT FACE 9050	1	
9		770079	PLATE-WEAR	1	
10		774023	DRIVE-	1	
11		774025	GEROLER ASSY- #21625-8	1	
12		774011	DRIVE-VALVE 8433	1	
13		770085	PLATE-VALVE	1	
14		770087	VALVE-	1	
15		770089	PLATE-BALANCE	1	
16		770057	SEAL-FACE INNER 9049-1	1	
17		770091	SEAL-FACE OUTER	1	
18		770037	PIN-14351	2	
19		770039	SPRING-7383	2	
20		770093	HOUSING-(SAE 10 PORTS)	1	Inc Ref No's 21 & 22
21		4485023	O-RING-250003-904	1	
22		4485019	PLUG-9071-3	1	
22		4485021	PLUG ASSY-9072-3	1	Inc Ref No's 21 & 22
		228514001	MOTOR-2000 SERIES 24 CID		Includes All Items In Figure
		770097	REPAIR KIT- #61258		Inc Ref No's 1, 3, 4, 5, 8, 16, 17 & 21
		Note:	When Ordering Replacement Parts		Include The Product Number 104-1743-006 With Your Order

Hyd Cylinder Components - 1 1/2" x 8" Fig 14-5

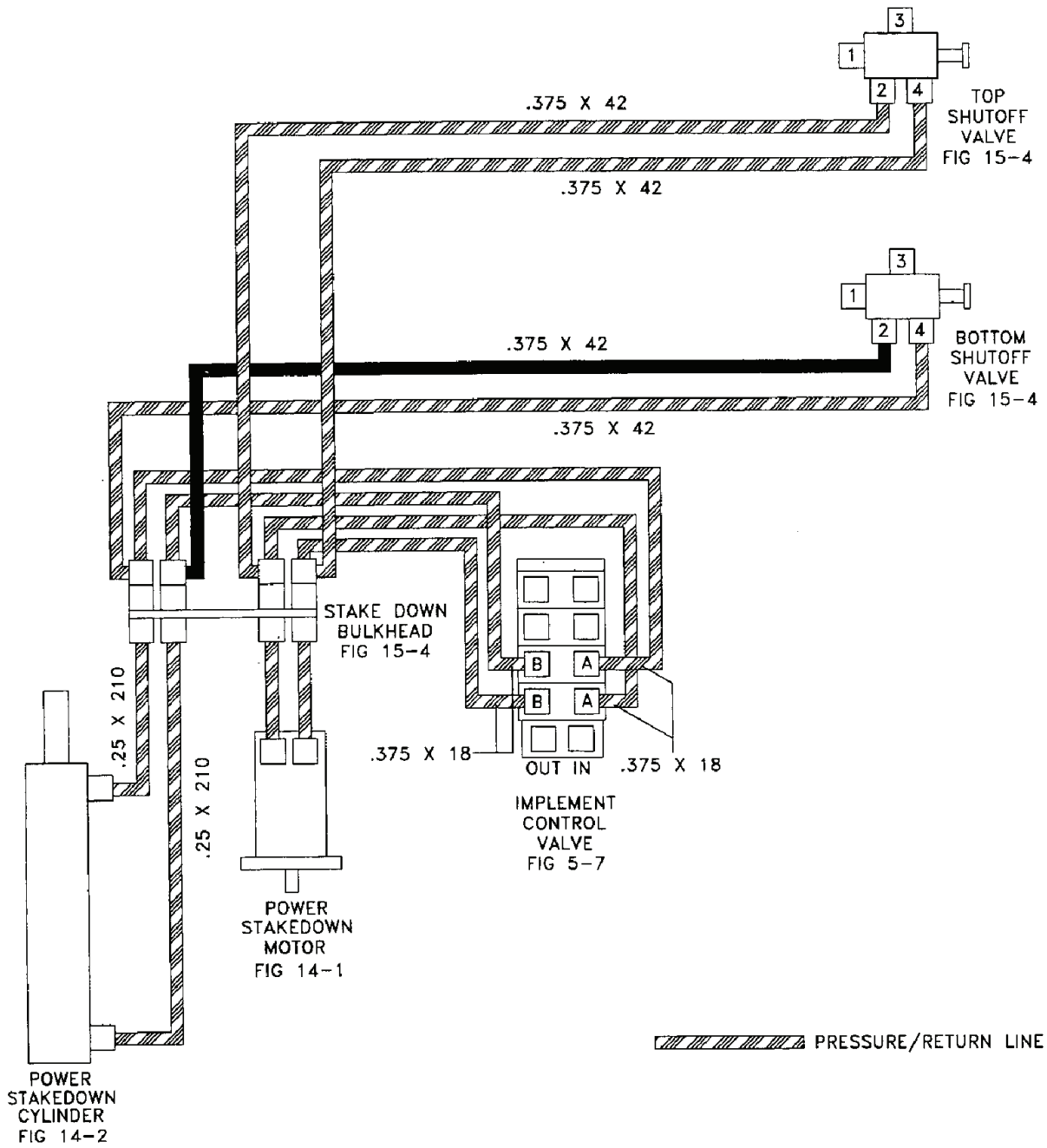


Hyd Cylinder Components - 1 1/2" x 8" Fig 14-5

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		215170003	UNI-RING	1	
2		223998003	O-RING	1	
3		202727001	O-RING	1	
4		202726001	WASHER-BACK-UP	1	
5		224589009	INTERNAL SNAP RING	1	
6		219111009	LOADED U-CUP	1	
7		219111011	ROD WIPER	1	
8		215170011	LOCKNUT-ELASTIC	1	
9		202720001	PISTON	1	
10		224589003	BODY ASSEMBLY	1	
11		224589005	ROD ASSEMBLY	1	
12		224589007	GLAND	1	
		224589001	CYLINDER 1 1/2 X 8 HYD		Includes All Items In Figure
		224589011	SEAL KIT		Inc Ref No's 1-7

Hyd Components Location Diagram - Power Stake Down Fig 14-6

Revised February 1999 due to
addition of figure to manual.

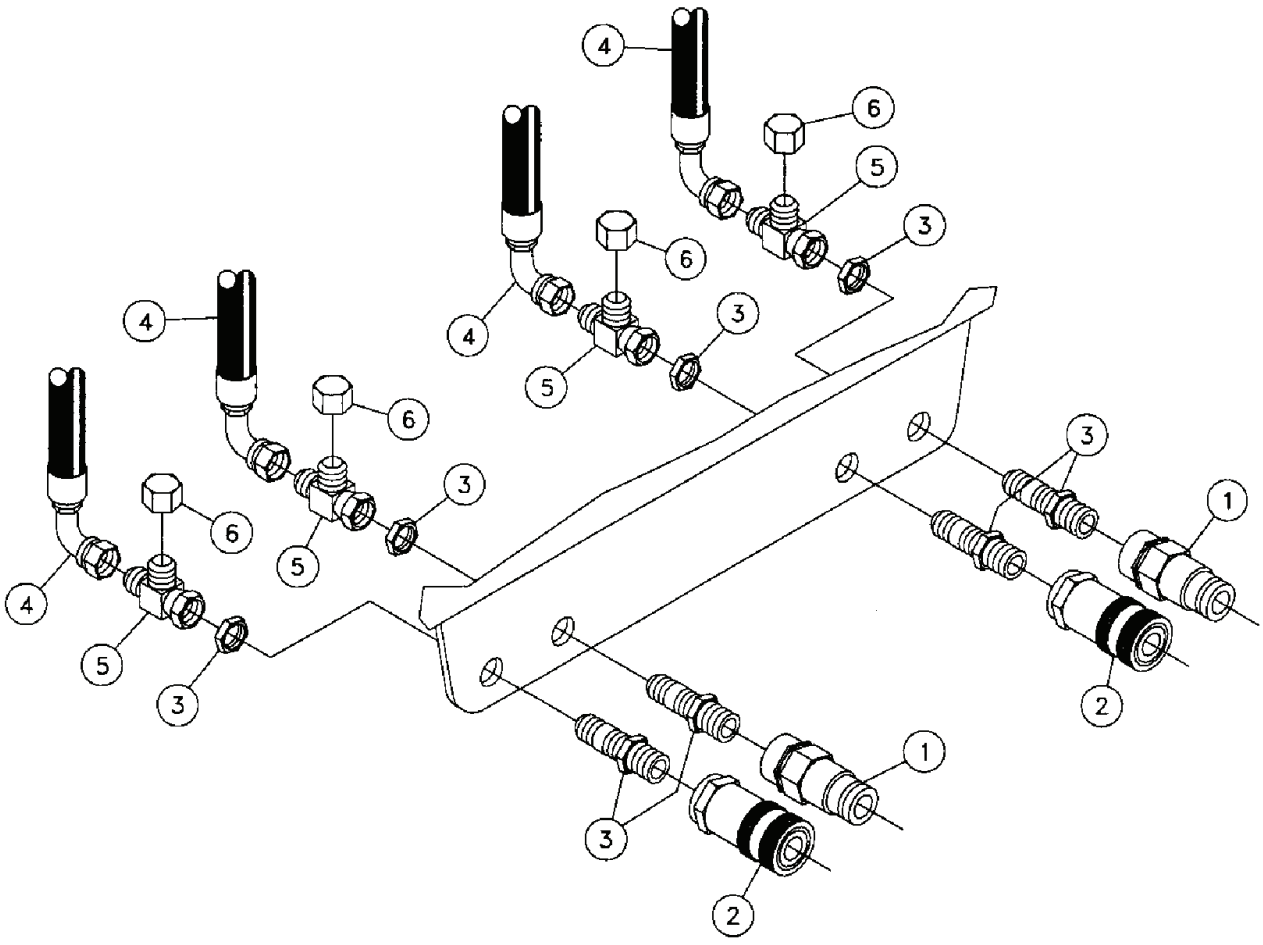


Hyd Components Location Diagram - Power Stake Down Fig 14-6

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Addition To Manual

Bulkhead Assy Fig 14-7

Revised February 1999 due to
addition of figure to manual.

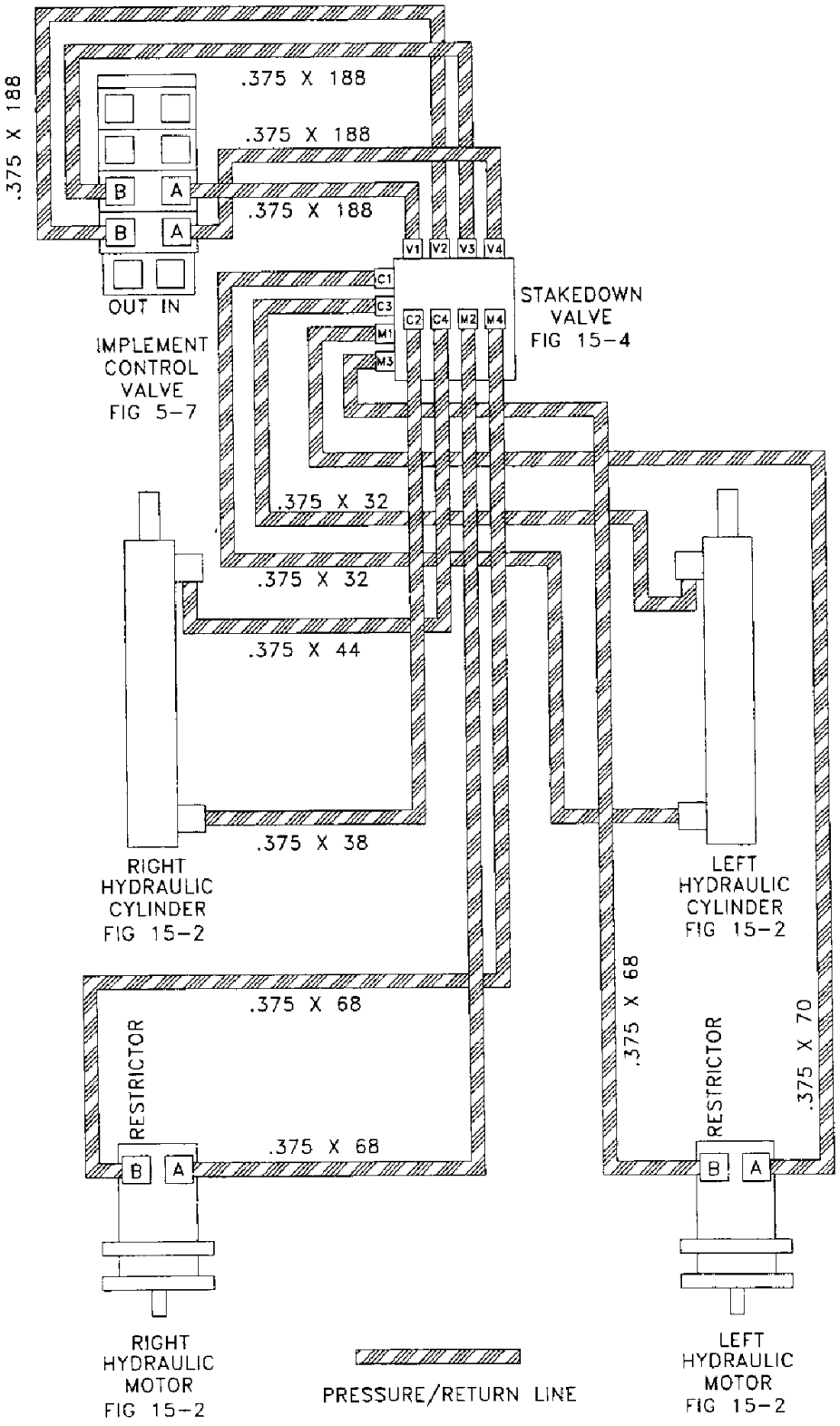


Bulkhead Assy Fig 14-7

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 1999		Addition To Manual
1		221503001	COUPLER-3/8 NPT QUICK (MALE)	2	
2		221504001	COUPLER-3/8 NPT QUICK (FEMALE)	2	
3		130987001	FITTING-6MJIC/3/8MNPT BULKHEAD	4	
4		57940583	HOSE-3/8X18 6FS JIC 6FS JIC 90	4	
5		59427001	TEE-6M JIC BCH 6FS JIC X6M JIC	4	
6		59403001	CAP NUT - 6 JIC	4	

Hyd Components Location Diagram - Power Stake Down Fig 15-1r02

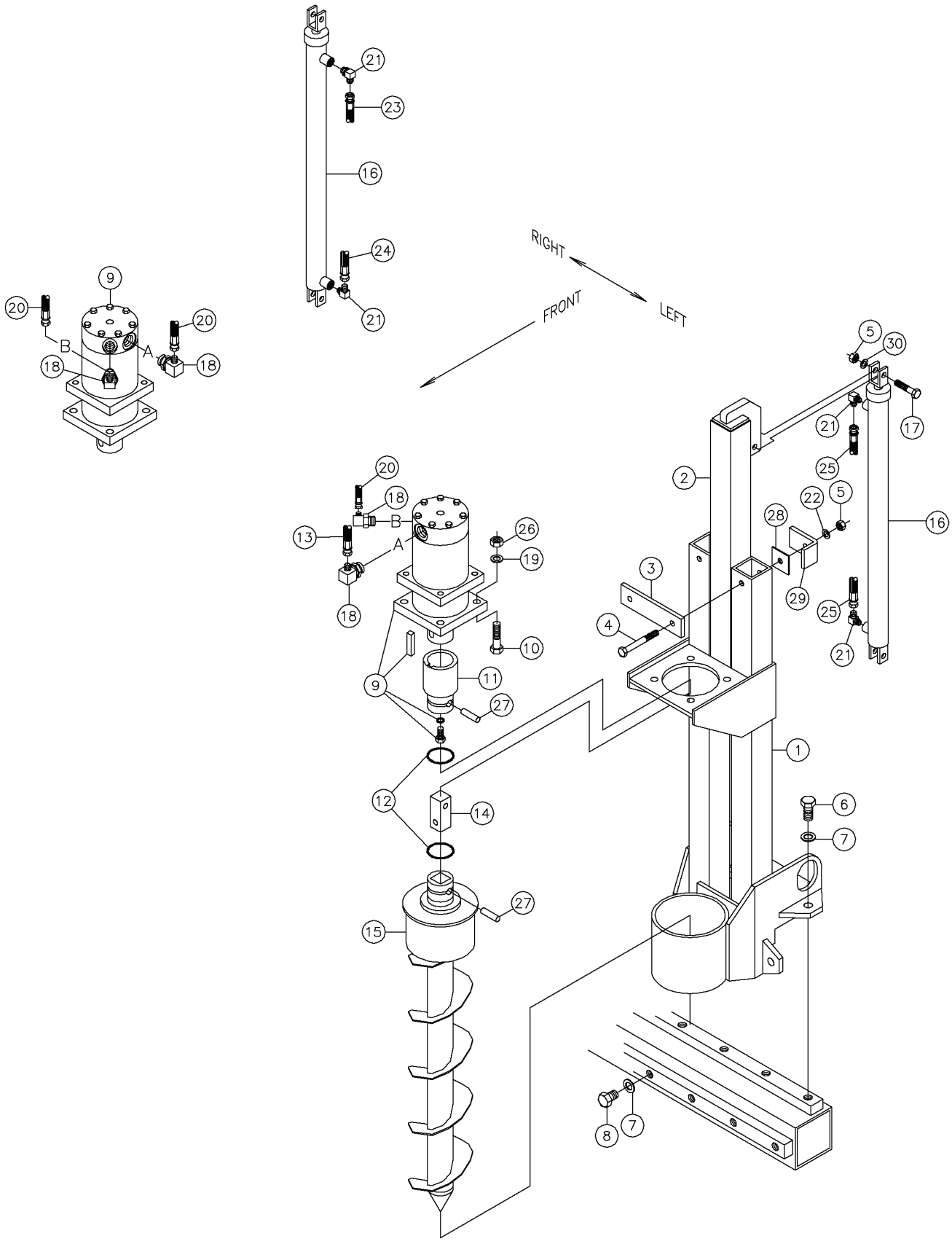
Revised August 1999 due to update in illustration.



Hyd Components Location Diagram - Power Stake Down Fig 15-1r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	August, 1999		Update In Illustration.

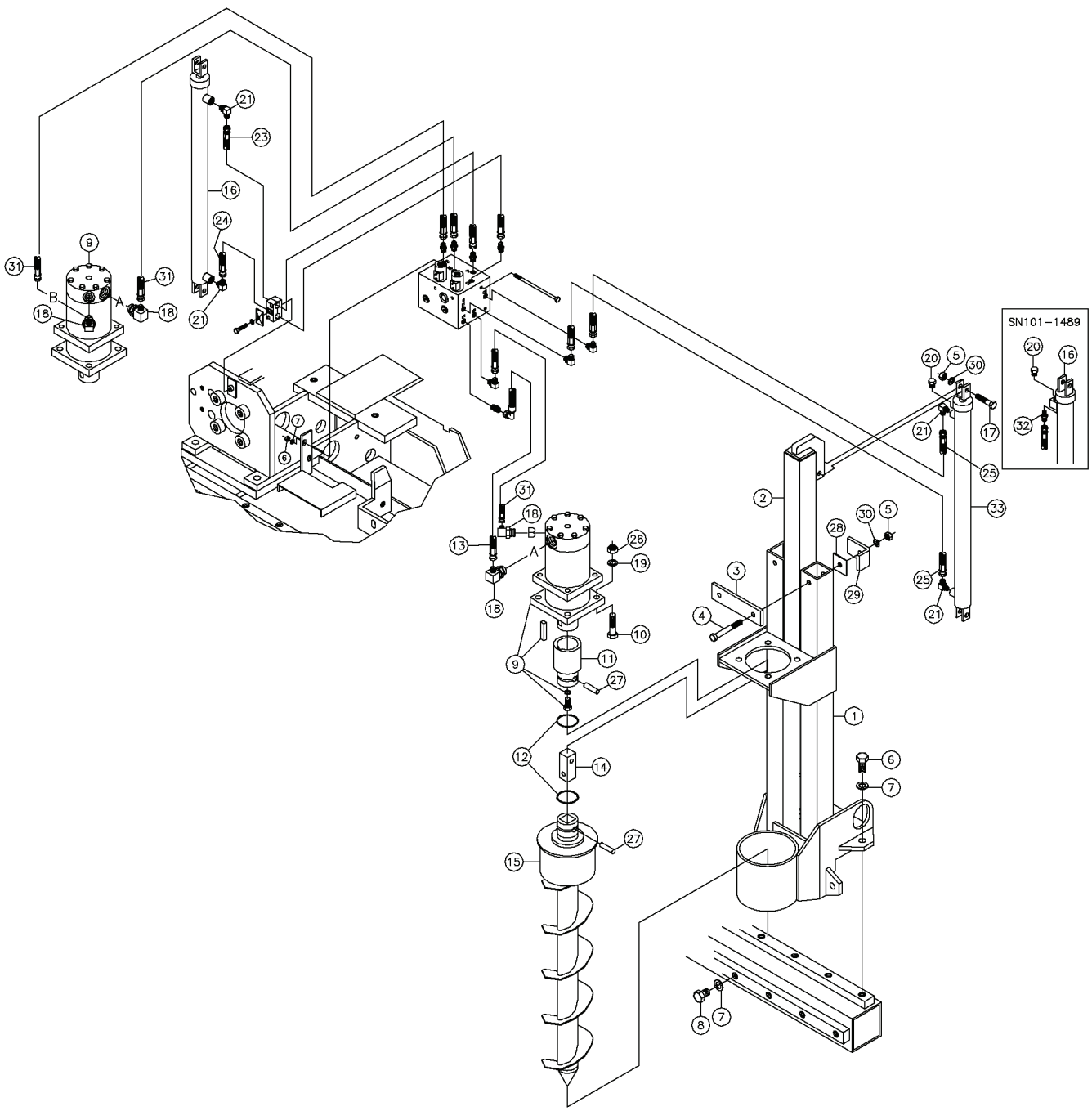
Stationary Stake Down Assy Fig 15-2r04



Stationary Stake Down Assy Fig 15-2r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		235916001	TOWER-STAKEDOWN	2	
2		236210001	MOUNT-SLIDE MOTOR	2	
3		232482001	BAR-REINFORCEMENT	2	
4		238244001	BOLT 1/2"-13 X 4"GR8 HEX Y/ZIN	4	
5		235731001	NUT-1/2-13 GR8 ZINC PLTD	8	
6	*	238217001	BOLT-3/4-10X1 1/2 GR8 HEX ZYC	8	
7		235717001	WASHER-3/4 FLAT HARDENED YELLOW ZINC	12	
8		250505001	BOLT 3/4-10 X 1" GR8 HEX	4	
9		236219001	HYD MOTOR-66CI	2	Breakdown Fig 15-5
10		238245001	BOLT 5/8" - 11 X 2 1/4 Gr 8 HEX	8	
11		236205001	HUB-STAKE DRIVE	2	
12		236229001	O-RING - 329	4	
13	*	250669001	HOSE-3/8X70 6FSJIC ST/90 M3K	1	
14		236230001	BAR-STAKE DRIVE	2	
15		232484001	STAKE-6" FLIGHT	2	
16		245060001	CYLINDER-1 1/2 X 24 W/TEE	2	Breakdown Fig 15-6, S/N 101-1489
	*	232422001	CYLINDER-1 1/2X24	2	Breakdown Fig 15-8r01, S/N 1490-1775
	*	287588001	CYLINDER - 1-1/2 X 24	2	Breakdown Fig 15-8r02, S/N 1776-
17		235718001	BOLT-1/2-13X2 GR8 HEX ZINC PLT	4	
18		102115001	FITTING - 90 - 6MJ - 12MORBA	4	
19	*	235715001	WASHER-5/8 SAE HARD ZINC PLTD	8	
20	*	57940161	HOSE-3/8X68-6FS JIC 3000 PSI	3	
21		60906001	4MX6M JIC 90 DEG ELBOW	4	
22	*	485025	WASHER-1/2 FLAT-HARDENED-ZINC	8	
23		57940145	HOSE-3/8X44 6FS JIC (100R2)	1	
24		57940381	HOSE-3/8X38 6FSJIC SAE-100R1	1	
25		57940275	HOSE-3/8X32 6FS JIC 3000 PSI	2	
26	*	250513001	NUT - 5/8NC Gr8 TOP LOCK Y/ZINC	8	
27		236200001	PIN-STAKE KEEPER	4	
28		236233001	PLATE-SPACER	4	
29		236232001	BAR-GUIDE	4	

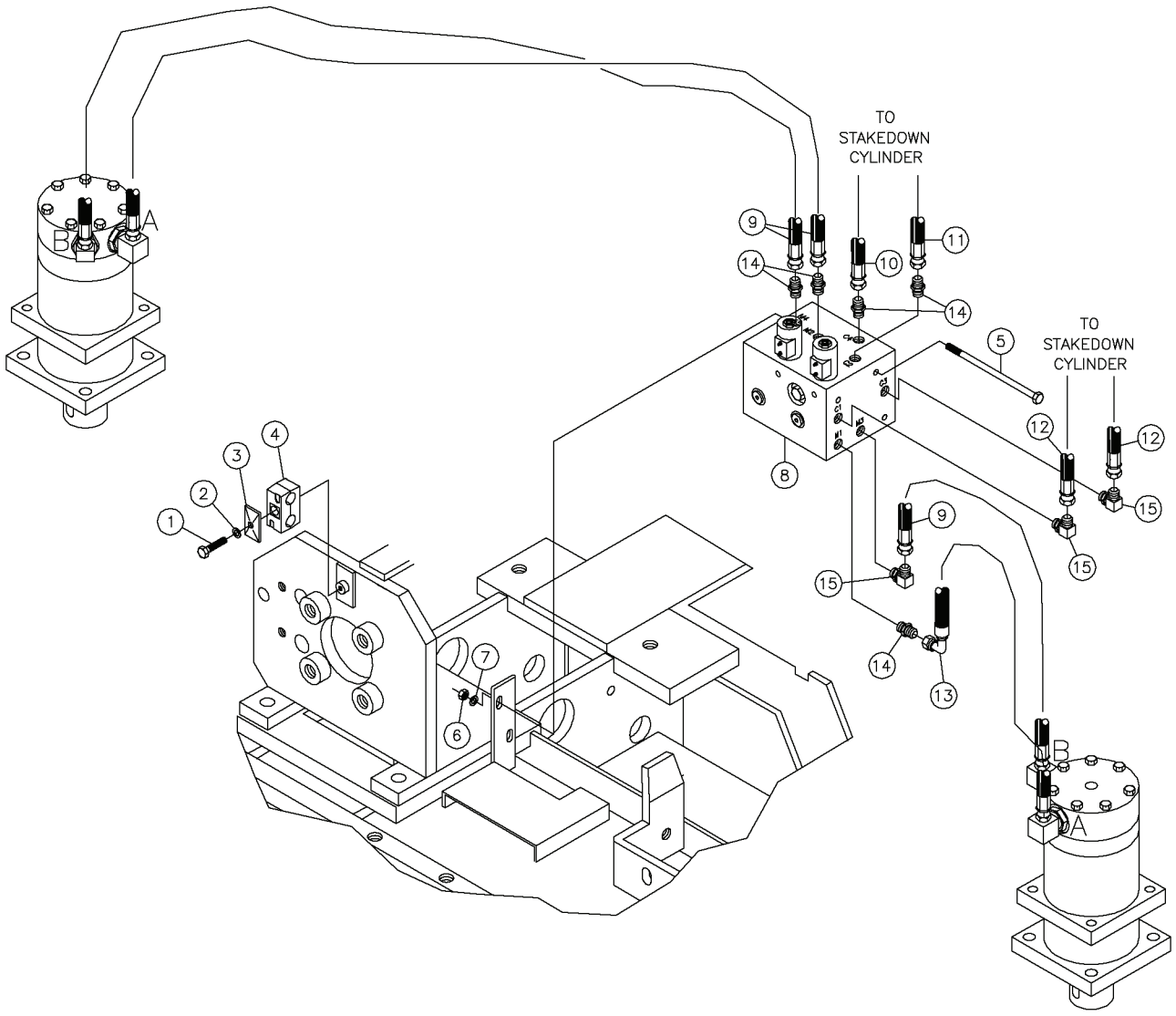
Stationary Stake Down Assy Fig 15-2r03



Stationary Stake Down Assy Fig 15-2r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration & Parts List
1		235916001	TOWER-STAKEDOWN	2	
2		236210001	MOUNT-SLIDE MOTOR	2	
3		232482001	BAR-REINFORCEMENT	2	
4		238244001	BOLT 1/2”-13 X 4”GR8 HEX Y/ZIN	4	
5		235731001	NUT-1/2-13 GR8 ZINC PLTD	8	
6		250643001	BOLT-3/4-10 X1 1/4 GR 8 Y/ZINC	8	
7		235717001	WASHER-3/4 FLAT HARDENED YELLOW ZINC	12	
8		250505001	BOLT 3/4-10 X 1” GR8 HEX	4	
9		236219001	HYD MOTOR-66CI	2	Breakdown Fig 15-5
10		238245001	BOLT 5/8” - 11 X 2 1/4 Gr 8 HEX	8	
11		236205001	HUB-STAKE DRIVE	2	
12		236229001	O-RING - 329	4	
13		57940715	HOSE-3/8X58 6FSJICST 3000#	2	
14		236230001	BAR-STAKE DRIVE	2	
15		232484001	STAKE-6” FLIGHT	2	
16		245060001	CYLINDER-1 1/2 X 24 W/TEE	2	Breakdown Fig 15-6, S/N 101-1489
17		235718001	BOLT-1/2-13X2 GR8 HEX ZINC PLT	4	
18	*	102115001	FITTING - 90 - 6MJ - 12MORBA	4	
19		122606001	FITTING-6MX6M JIC90 DEGW/ RSTS	2	
20	*	67263001	FITTING - PLUG - 4MORB - HEX	2	S/N 101-1489
21	*	60906001	4MX6M JIC 90 DEG ELBOW	4	
22		57940201	HOSE-3/8X10 6FS JIC (100R2)	2	
23	*	57940145	HOSE-3/8X44 6FS JIC (100R2)	1	
24	*	57940381	HOSE-3/8X38 6FSJIC SAE-100R1	1	
25	*	57940275	HOSE-3/8X32 6FS JIC 3000 PSI	2	
26		241065001	REPLACED BY 238221001	8	
27		236200001	PIN-STAKE KEEPER	4	
28		236233001	PLATE-SPACER	4	
29		236232001	BAR-GUIDE	4	
30		485025	WASHER-1/2 FLAT-HARDENED-ZINC	8	
31	*	57940161	HOSE-3/8X68-6FS JIC 3000 PSI	3	
32		65569001	4M X 6M JIC ST.	2	S/N 101-1489
33	*	232422001	CYLINDER-1 1/2X24	2	Breakdown Fig 15-8, S/N 1490 -

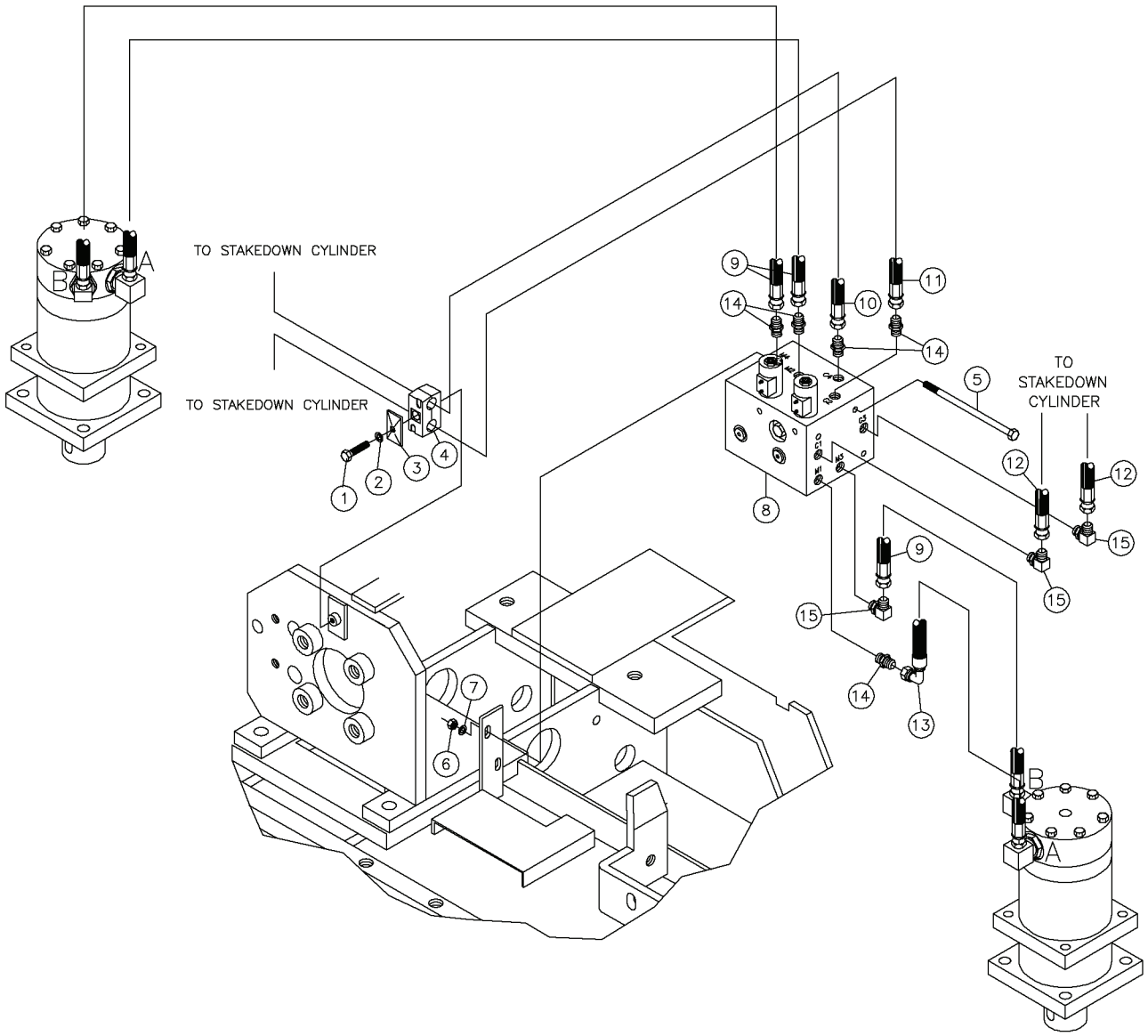
Lock Valve Assy Fig 15-3r05



Lock Valve Assy Fig 15-3r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1		279376001	BOLT - 5/16-18X1 1/2 GR8 HEX ZNC PLT	1	Replaces 248031001
2		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	
3	*	900035003	DOUBLE HOSE CLAMP PLATE 3/8	1	
4		900035005	CLAMP-3/8”DOUBLE HOSE	1	
5		244066001	BOLT-3/8-16X5 1/2 GD 8 ZNC PL	2	
6		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	1	
7		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	
8	*	228246001	VALVE- STAKEDOWN	1	Breakdown Fig 5-24
9		57940161	HOSE-3/8X68-6FS JIC 3000 PSI	3	
10		57940145	HOSE-3/8X44 6FS JIC (100R2)	1	
11		57940381	HOSE-3/8X38 6FSJIC SAE-100R1	1	
12		57940275	HOSE-3/8X32 6FS JIC 3000 PSI	2	
13		250669001	HOSE-3/8X70 6FSJIC ST/90 M3K	1	
14		65565001	FITTING - 6M O-RING X 6M JIC ST.	5	
15		59426001	FITTING - 90-6MJ-6MORBA	3	

Lock Valve Assy Fig 15-3r04

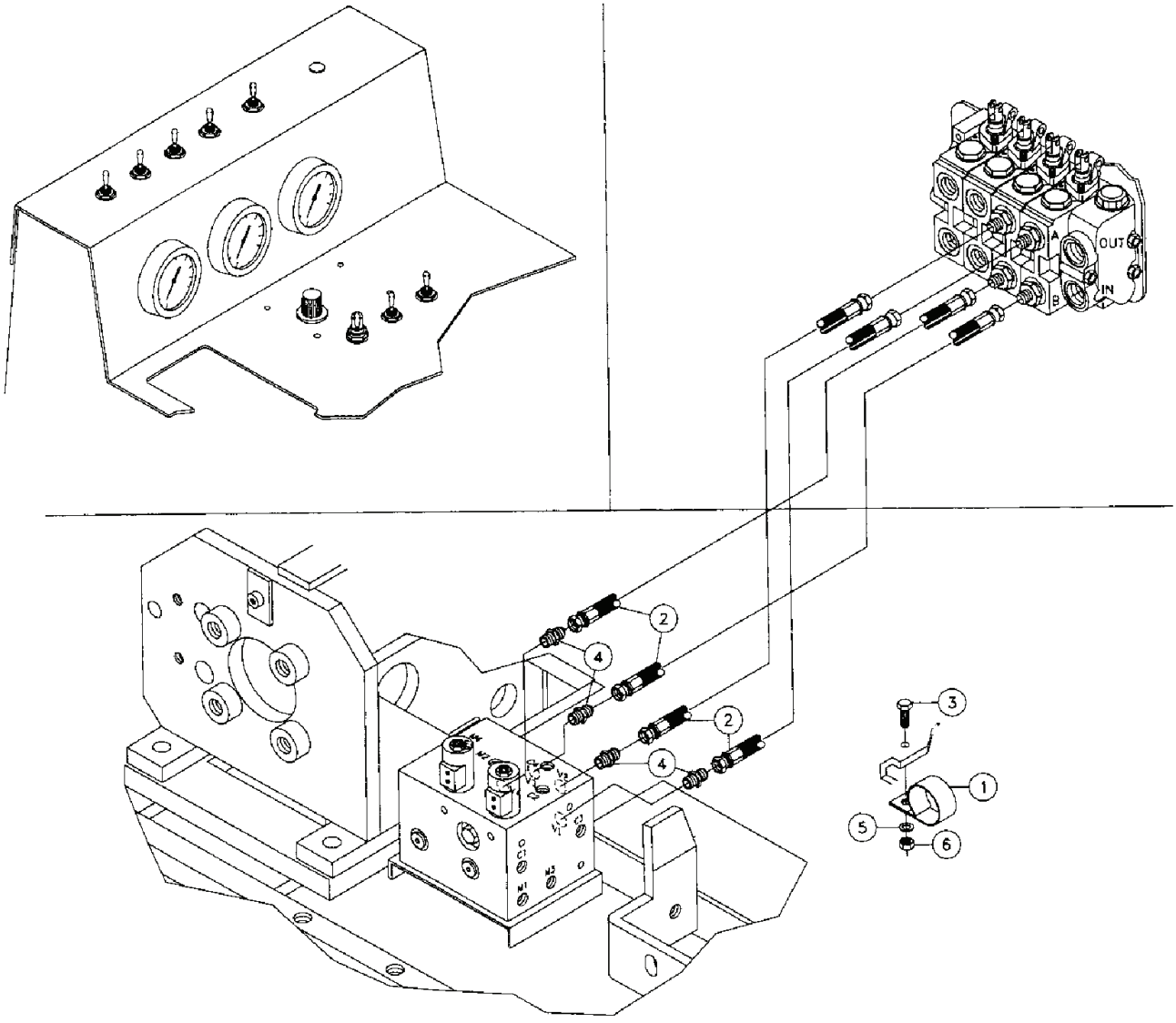


Lock Valve Assy Fig 15-3r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Parts List
1		279376001	BOLT - 5/16-18X1 1/2 GR8 HEX ZNC PLT	1	Replaces 248031001
2		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	
3		67846003	PLATE-TWIN COVER	1	
4		900035005	CLAMP-3/8”DOUBLE HOSE	1	
5		244066001	BOLT-3/8-16X5 1/2 GD 8 ZNC PL	2	
6		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	1	
7		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	1	
8		228246001	VALVE- STAKEDOWN	1	Breakdown Fig 5-23
9		57940161	HOSE-3/8X68-6FS JIC 3000 PSI	3	
10		57940145	HOSE-3/8X44 6FS JIC (100R2)	1	
11		57940381	HOSE-3/8X38 6FSJIC SAE-100R1	1	
12		57940275	HOSE-3/8X32 6FS JIC 3000 PSI	2	
13		250669001	HOSE-3/8X70 6FSJIC ST/90 M3K	1	
14	*	65565001	FITTING - 6M O-RING X 6M JIC ST.	5	
15	*	59426001	FITTING - 90-6MJ-6MORBA	3	

Shutoff Valve Assy Fig 15-4r02

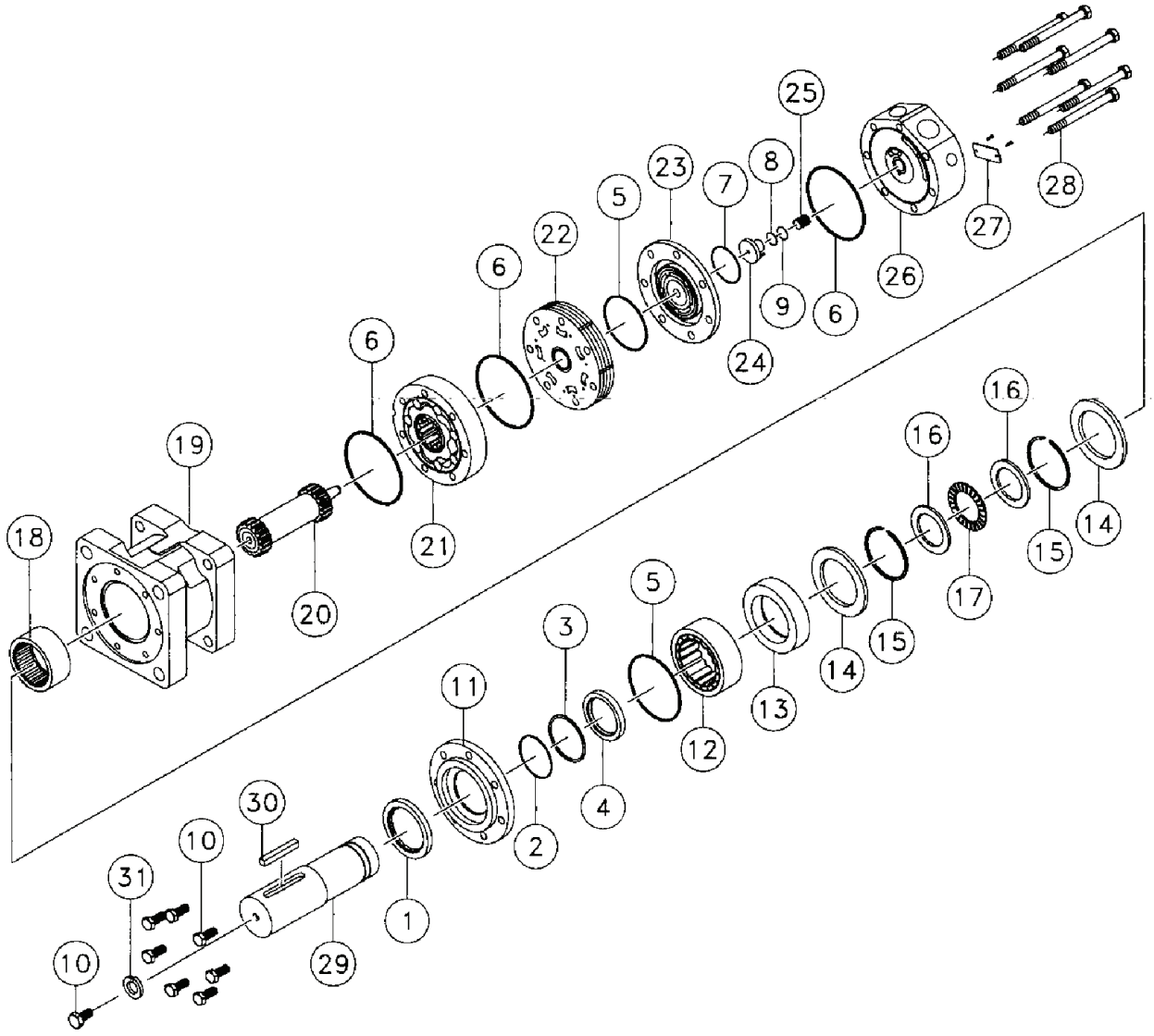
Revised August 1999 due to update
in parts list. Figure is new.



Shutoff Valve Assy Fig 15-4r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	August, 1999		Addition To Manual
1		204721001	HOSE CLAMP-CCV2913 1 3/4”	1	
2		57940591	HOSE-3/8X188 3000 PSI	4	
3		235727001	BOLT-3/8-16X1 GR8 HEX ZIN PLT	1	
4		65565001	FITTING-6M X 6M JIC ST.	4	
5		235713001	WASHER-3/8 SAE HARD ZINC PLTD	1	
6		235725001	NUT-3/8-16 GR 8 ZINC PLTD	1	

Hyd Motor Components Fig 15-5



Hyd Motor Components Fig 15-5

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		NSS	SEAL-DUST	1	
2		NSS	SHIM-METAL BACKUP	1	
3		NSS	SEAL-TEFLON BACKUP	1	
4		NSS	SEAL-SHAFT	1	
5		NSS	SEAL-LATHE CUT	2	
6		NSS	SEAL-BODY	3	
7		NSS	SEAL-COMMUTATOR	1	
8		NSS	SEAL-O-RING	1	
9		NSS	SEAL-TEFLON BACKUP	1	
10		383010	BOLT-1/2-20X1 GR.8 HEX HEAD	8	
11		236219007	RING-PILOT	1	
12		236219009	BEARING-2 1/2” ROLLER	1	
13		236219011	SPACER-BEARING	1	
14		236219013	WASHER-RETAINING	2	
15		236219015	SNAP RING	2	
16		236219017	WASHER-THRUST	2	
17		236219019	BEARING-THRUST	1	
18		236219021	BEARING-REAR HOUSING	1	
19		236219023	HOUSING	1	
20		236219025	DRIVE LINK	1	
21		236219027	ROTOR ASSEMBLY	1	
22		236219029	MANIFOLD	1	
23		236219031	COMMUTATOR ASSEMBLY	1	
24		236219033	PISTON-ENDCOVER	1	
25		236219035	SPRING-PISTON	1	
26		236219037	ENDCOVER	1	Inc Ref No’s 8, 9, 24 & 25
27		NSS	I.D. TAG ASSEMBLY	1	
28		236219039	BOLT	7	
29		236219041	SHAFT-ASSEMBLY	1	Inc Ref No’s 1-5, 10-17 & 29-31
30		236219005	KEY-SHAFT	1	
31		480011	WASHER-1/2 S/T LOCK	1	
		236219001	HYD MOTOR-66CI		Includes All Items In Figure
		236219003	SEAL KIT-HYD. MOTOR		Inc Ref No’s 1-9
		NSS	Not Sold Separately		

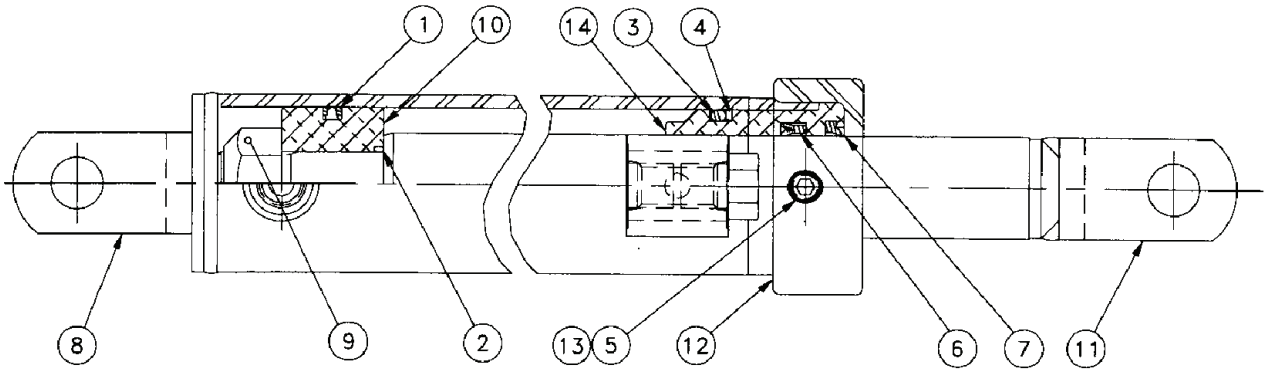
Hyd Cylinder Components - 1 1/2" x 24" (Replace By Figure 15-8) Fig 15-6r02

FIGURE DELETED DUE TO UPDATE

Hyd Cylinder Components - 1 1/2" x 24" (Replace By Figure 15-8) Fig 15-6r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2002		Update In Illustration & Parts List.
			Figure 15-6 Has Been Replaced By Figure 15-8		

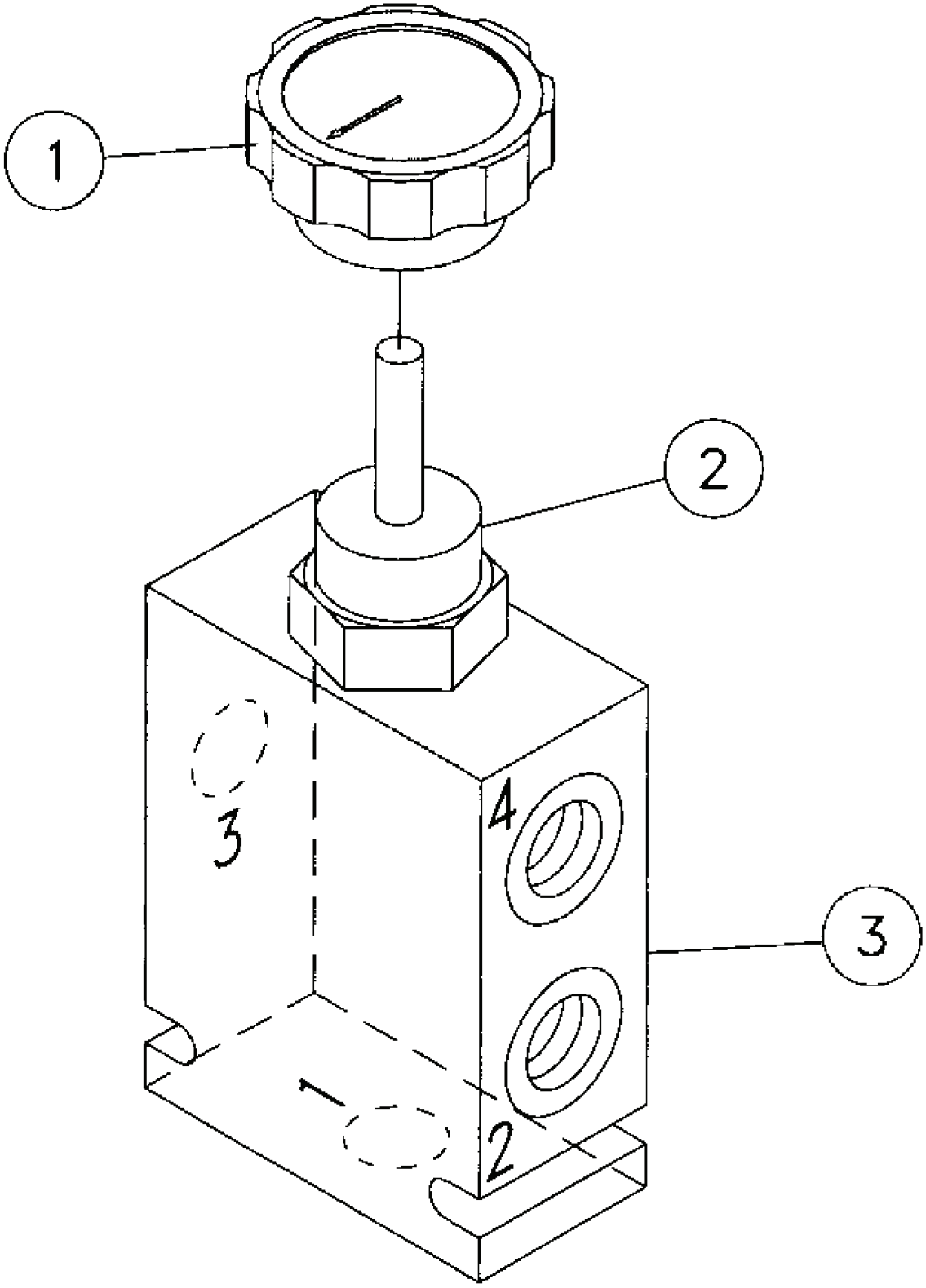
Hyd Cylinder Components - 1 1/2" x 24" W/Tee (S/N 101-1489) Fig 15-6r01



Hyd Cylinder Components - 1 1/2" x 24" W/Tee (S/N 101-1489) Fig 15-6r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Heading
1		245060003	PSP “A” SEAL	1	
2		232422005	O-RING	1	
3		232422007	O-RING	1	
4		232422009	BACKUP RING	1	
5		232422011	LOCKING INSERT	1	
6		232422013	DOUBLE LIP U-CUP	1	
7		232422015	ROD WIPER	1	
8		245060005	TUBE-WELDMENT	1	
9		232422019	.625-18UNF LOCKNUT	1	
10		232422021	PISTON	1	
11		232422023	ROD WELDMENT	1	
12		232422025	HEAD GLAND CAP	1	
13		99859005	SCREW-LG SET .313-18 X .25	1	
14		232422027	HEAD GLAND	1	
		245060007	SEAL KIT		Inc Ref No’s 1-7
		245060001	CYLINDER-1 1/2 X 24 W/TEE		Includes All Items In Figure

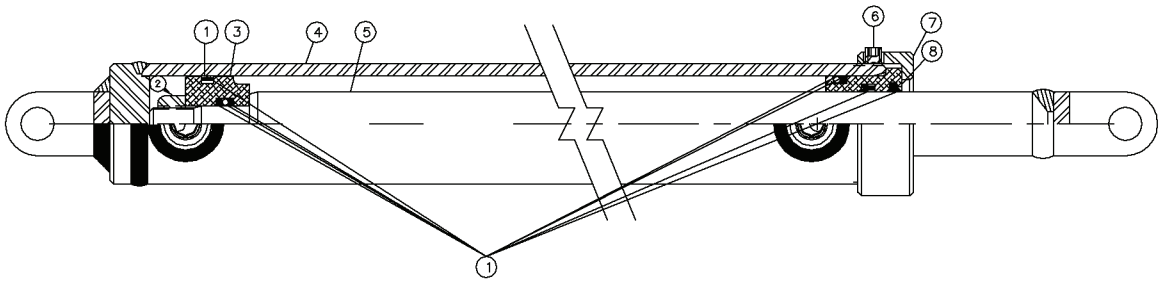
Shut Off Valve Components Fig 15-7



Shut Off Valve Components Fig 15-7

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		236406003	KNOB	1	
2		236406005	VALVE	1	
3		NSS	BODY	1	
		236406001	VALVE-4WAY, 2 POS. SHUTOFF		Includes All Items In Figure
		236406007	REPAIR KIT		
		NSS	Not Sold Separately		

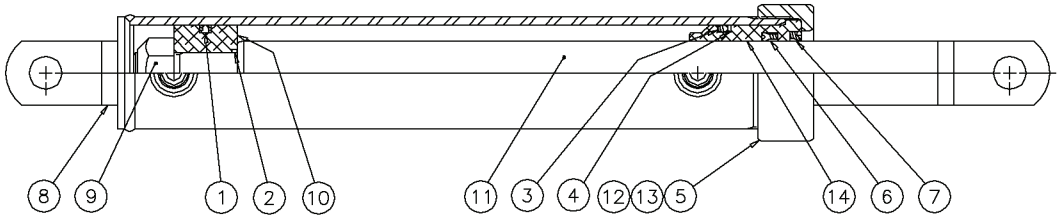
Hyd Cylinder Components - 1 1/2" x 24" (S/N 1776 -) Fig 15-8r02



Hyd Cylinder Components - 1 1/2" x 24" (S/N 1776 -) Fig 15-8r02

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		287588002	SEAL KIT		
2		202722001	LOCKNUT		
3		287588004	PISTON		
4		287588005	BARREL ASSEMBLY		
5		287588006	ROD ASSEMBLY		
6		109725015	CP SH SET SCREW subs to 223998013		
7		287588007	THREAD CAP		
8		287588008	THREAD CAP HEAD		
		287588001	CYLINDER - 1-1/2 X 24		Includes All Items In Figure

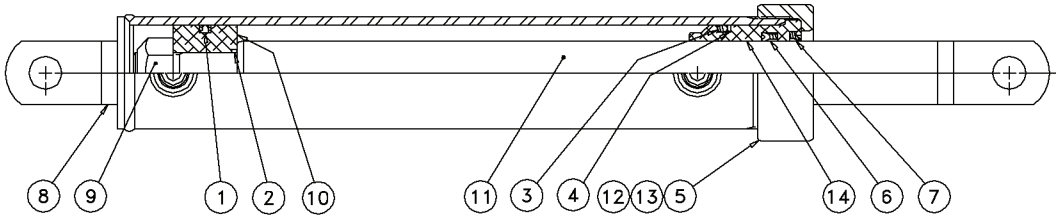
Hyd Cylinder Components - 1 1/2" x 24" (S/N 1490-1775) Fig 15-8r01



Hyd Cylinder Components - 1 1/2" x 24" (S/N 1490-1775) Fig 15-8r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Addition To Manual
1		232422003	T-SEAL	1	
2		232422005	O-RING	1	
3		232422007	O-RING	1	
4		232422009	BACKUP RING	1	
5		232422011	LOCKING INSERT	1	
6		232422013	DOUBLE LIP U-CUP	1	
7		232422015	ROD WIPER	1	
8		232422017	TUBE-WELDMENT	1	
9		232422019	.625-18 UNF LOCKNUT	1	
10		232422021	PISTON	1	
11		232422023	ROD WELDMENT	1	
12		232422025	HEAD GLAND CAP	1	
13		99859005	SCREW-LG SET .313-18X.25	1	
14		232422027	HEAD GLAND	1	
		232422001	CYLINDER-1 1/2X24		Includes All Items In Figure
		232422029	SEAL KIT		Inc Ref No's 1-7

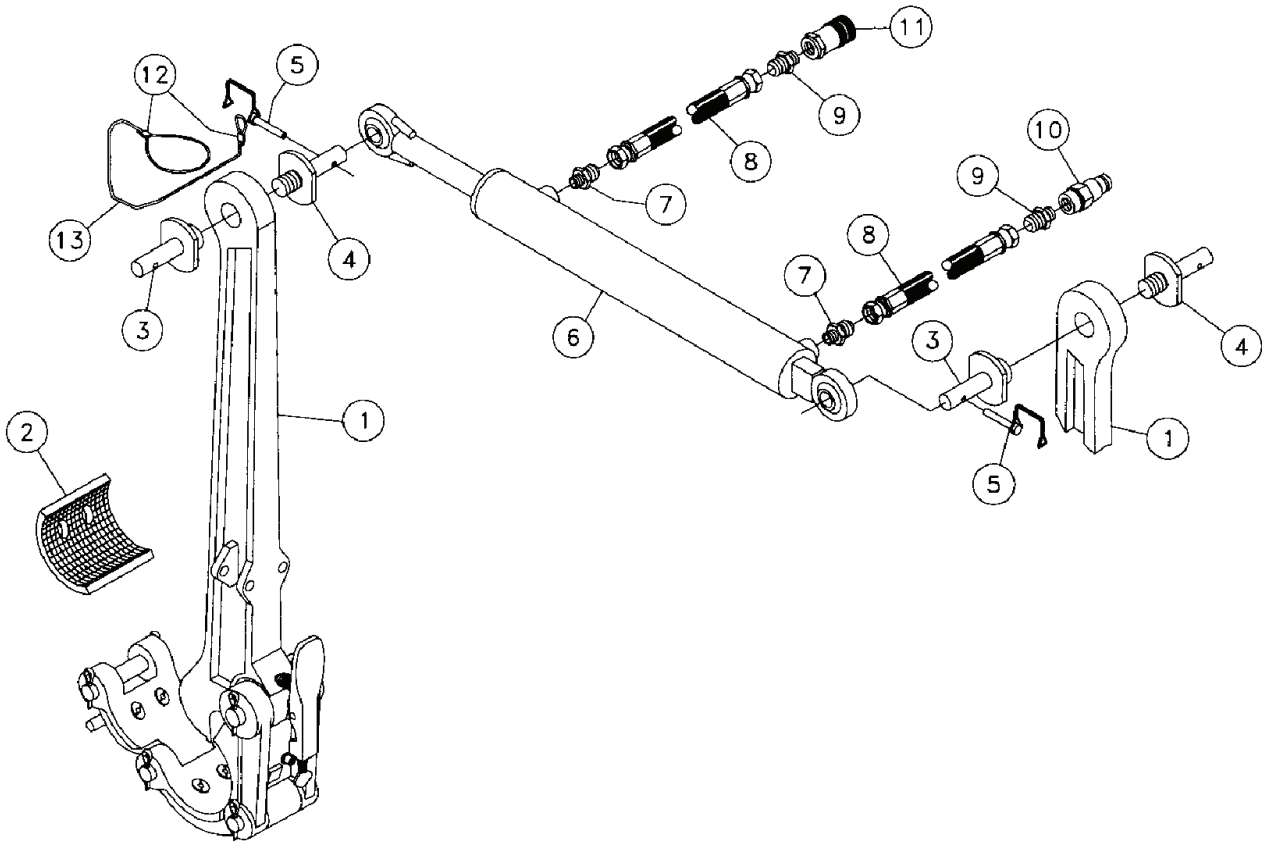
Hyd Cylinder Components - 1 1/2" x 24" (S/N 1490-) Fig 15-8



Hyd Cylinder Components - 1 1/2" x 24" (S/N 1490-) Fig 15-8

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Addition To Manual
1		232422003	T-SEAL	1	
2		232422005	O-RING	1	
3		232422007	O-RING	1	
4		232422009	BACKUP RING	1	
5		232422011	LOCKING INSERT	1	
6		232422013	DOUBLE LIP U-CUP	1	
7		232422015	ROD WIPER	1	
8		232422017	TUBE-WELDMENT	1	
9		232422019	.625-18 UNF LOCKNUT	1	
10		232422021	PISTON	1	
11		232422023	ROD WELDMENT	1	
12		232422025	HEAD GLAND CAP	1	
13		99859005	SCREW-LG SET .313-18X.25	1	
14		232422027	HEAD GLAND	1	
		232422001	CYLINDER-1 1/2X24		Includes All Items In Figure
		232422029	SEAL KIT		Inc Ref No's 1-7

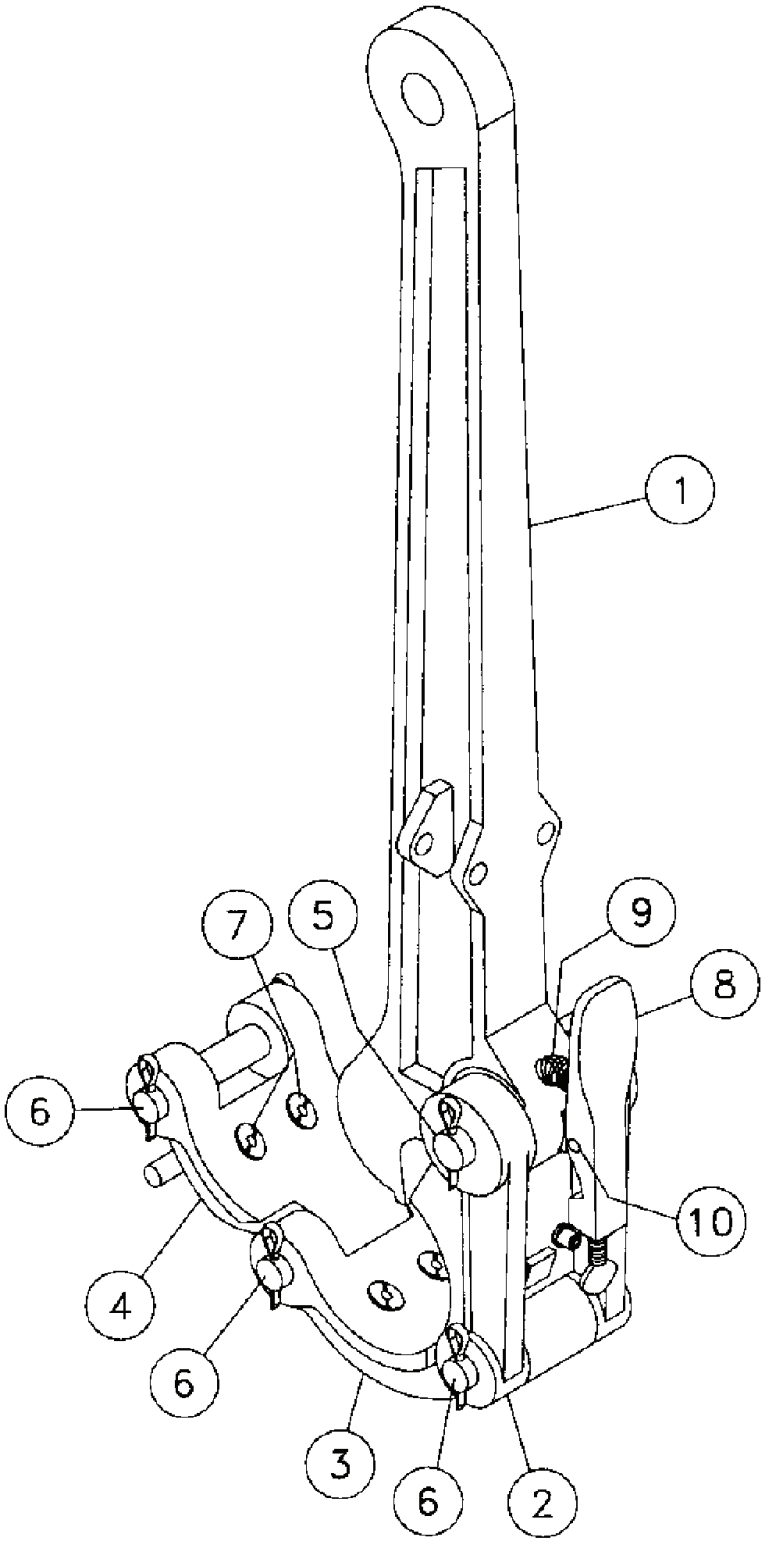
Tubing Tong Assy Fig 16-1



Tubing Tong Assy Fig 16-1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Note: [A]	2 3/8” DIES REQUIRED		
		Note: [B]	2 7/8” DIES REQUIRED		
		Note: [C]	3 1/2” DIES REQUIRED		
1		230970001	TONG-K30 LIGHT WEIGHT TUBING	2	[A] [B] [C] Breakdown Fig 16-2
2		235870001	K-30 2 5/8 DIES (3/SET)	1	[A]
		230972001	DIES-3 1/4”TUBING TONG(3/SET)	1	[B]
		230974001	DIES-3 5/8” TUBING TONG (3/ SET)	1	[C]
3		234967001	PIN-FEMALE CYLINDER	2	[A] [B] [C]
4		234966001	PIN-MALE CYLINDER	2	[A] [B] [C]
5		2108001	LYNCH PIN - 1/4 X 2	2	[A] [B] [C]
6		230977001	HOSE-1/2X240 8FS JIC 3000 PSI	1	[A] [B] [C] Breakdown Fig 10-10
7		86235001	6M O-RINGX8M JIC STR.	2	[A] [B] [C]
8		53844167	HOSE-1/2X240 8FS JIC 3000 PSI	2	[A] [B] [C]
9		68634001	FITTING-3/8MX8M JIC (STR)	2	[A] [B] [C]
10		221503001	COUPLER-3/8 NPT QUICK (MALE)	1	[A] [B] [C]
11		221504001	COUPLER-3/8 NPT QUICK (FEMALE)	1	[A] [B] [C]
12		1838001	CONNECTOR-WIRE (ETC)	4	[A] [B] [C]
13		240546001	CABLE-3/32 NYLON-18.00	2	[A] [B] [C]

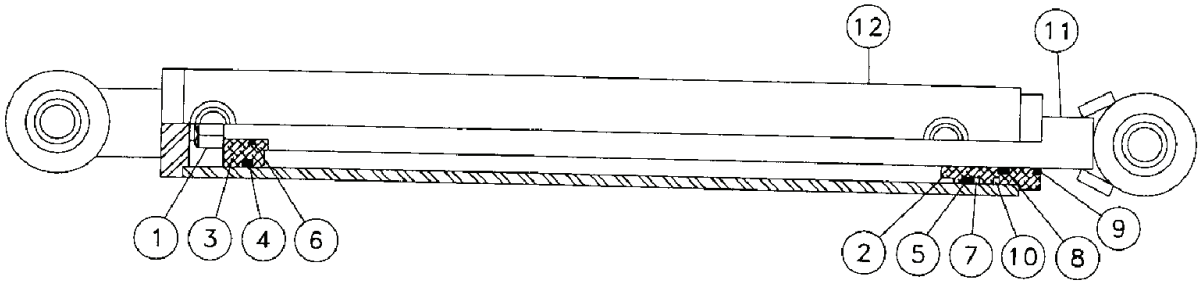
Tubing Tong Components Fig 16-2



Tubing Tong Components Fig 16-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		230970003	TONG HANDLE	1	
2		230970005	HANDLE JAW	1	
3		230970007	CENTER JAW	1	
4		230970009	LATCH JAW	1	
5		230970011	HANDLE PIN	1	
6		230970013	JAW PIN	3	
7		230970015	BUSHING AND SCREW	6	
8		230970017	ADJUSTABLE TONG LATCH	1	
9		230970019	LATCH SPRING	1	
10		230970021	LATCH RIVET	1	
		230970001	TONG-K30 LIGHT WEIGHT TUBING		Includes All Items In Figure

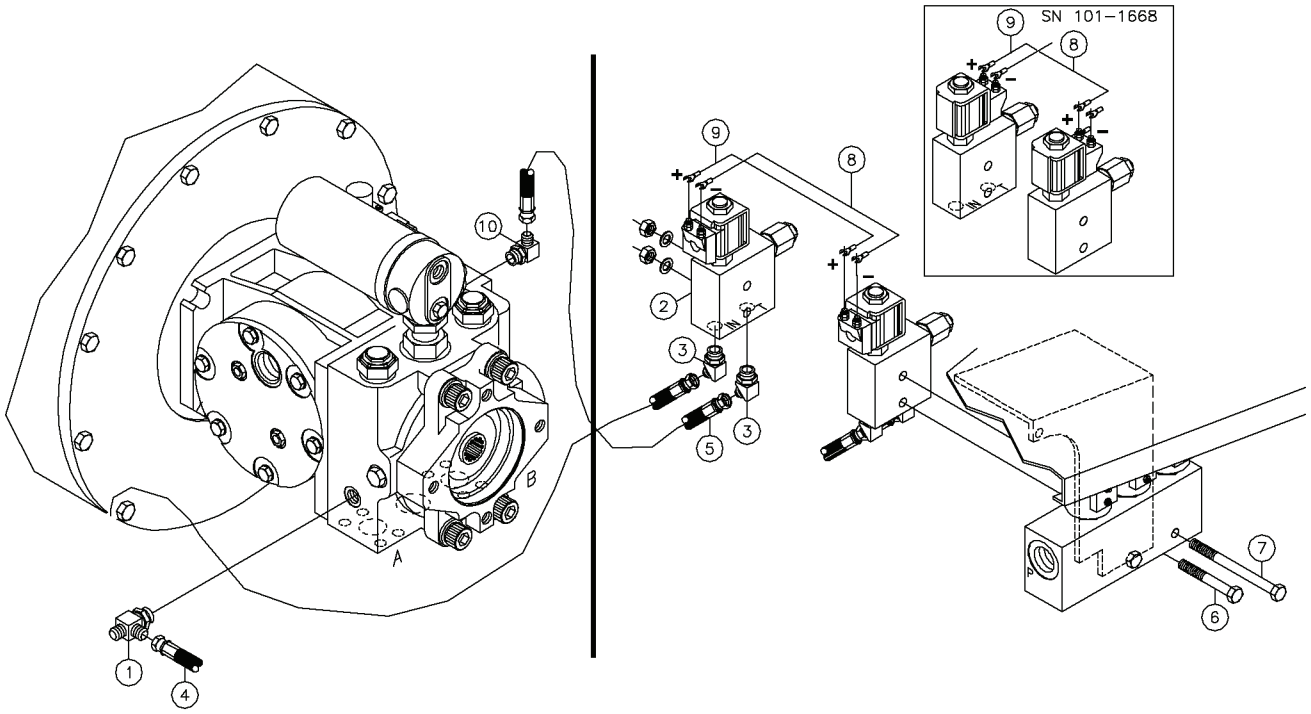
Hyd Cylinder Components - 2" x 15" Fig 16-3



Hyd Cylinder Components - 2" x 15" Fig 16-3

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
1		230977003	NUT	1	
2		230977005	HEAD	1	
3		230977007	PISTON	1	
4		230977009	PSP-SEAL	1	
5		51181001	O-RING	1	
6		792029	O-RING	1	
7		230977011	BACK-UP	1	
8		230977013	ROD SEAL	1	
9		230977015	DUST SEAL	1	
10		230977017	RETAINING RING	1	
11		230977019	SHAFT (W/CLEVIS)	1	
12		230977021	BARREL (W/CLEVIS AND PORTS)	1	
		230977023	REPAIR KIT		Inc Ref No’s 4-10
		230977001	CYLINDER-2”X15"		Includes All Items In Figure

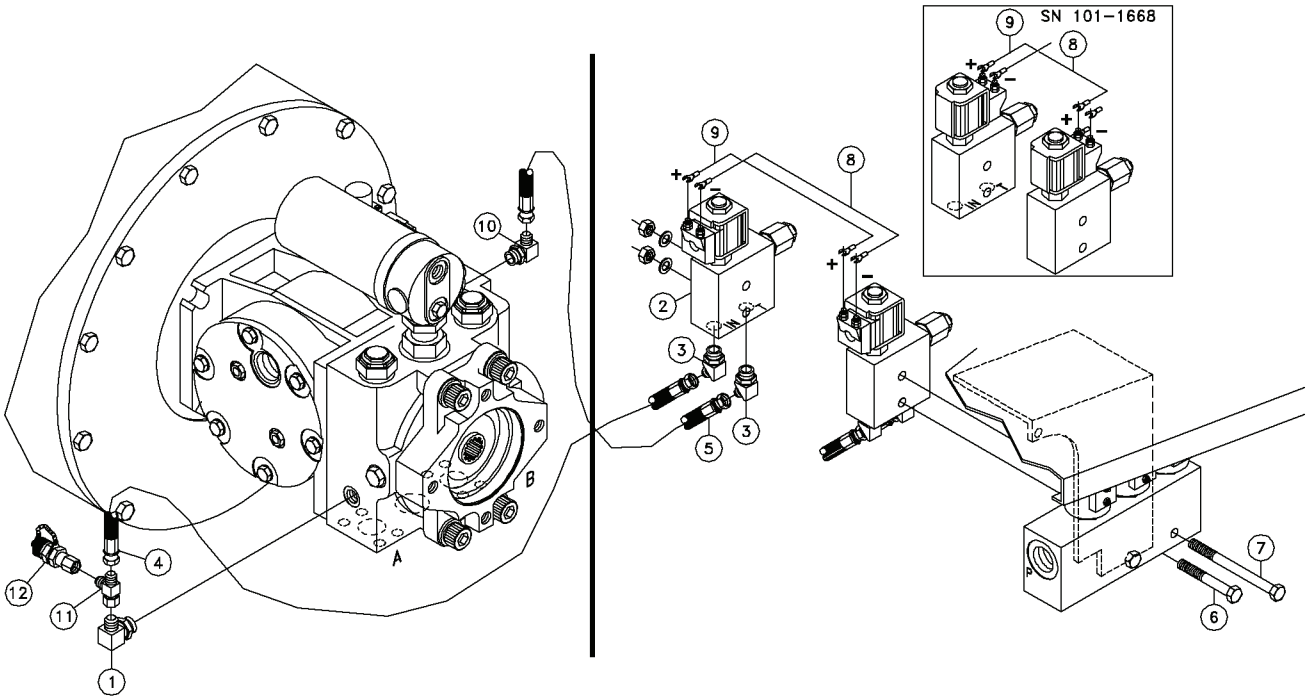
Remote Pressure Limiter Valve Assy Fig 17-1r04



Remote Pressure Limiter Valve Assy Fig 17-1r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List.
1	*	82930001	FIT-6MX4M JICX4M JIC (BCH) TEE	1	
2		250120001	VALVE-REMOTE PRESSURE LIMITER	1	Breakdown Fig 17-5
3		82931001	FITTING-6MX4M JIC 45DEG.ELBOW	2	
4		68210037	HOSE-1/4X20 4FS JIC 5000 PSI	1	
5		53843189	HOSE-HYD..25X24-4FSJ-ST/ST-3000PSI-M3KMT	1	
6		250541001	BOLT-3/8-16 X 4” GR8 HEX Y/ZI	1	
7		238214001	BOLT 3/8-16 X 6” Gr8 HEX Y\ZINC	1	
8		250122001	JUMPER WIRE	1	
9		250123001	JUMPER WIRE	1	
10		59523001	FIT-4M JIC X 4M ADJ 90 DEG ELBOW	1	

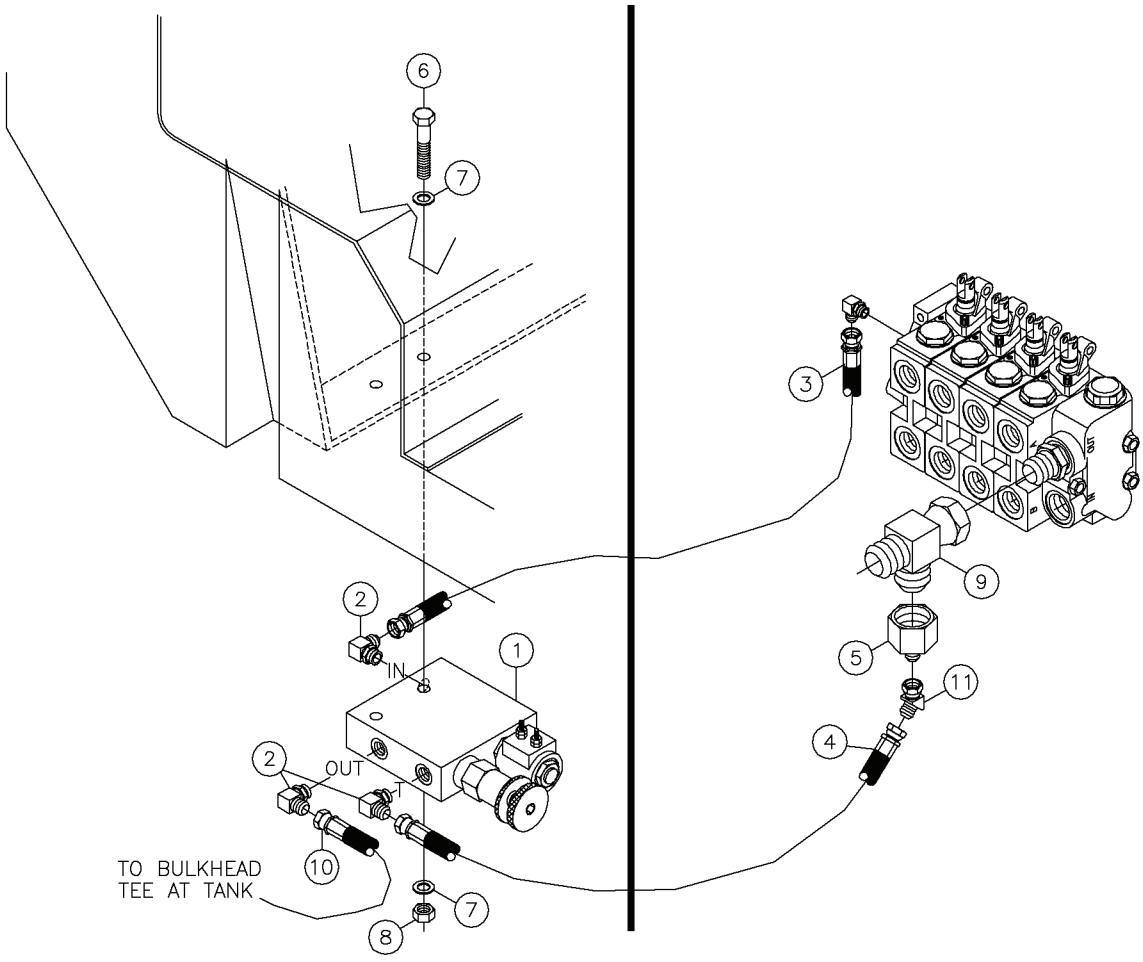
Remote Pressure Limiter Valve Assy Fig 17-1r03



Remote Pressure Limiter Valve Assy Fig 17-1r03

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	October, 2000		Update In Illustration.
1		600118001	FITTING-6MORINGX4MJIC90PARKER	1	
2		250120001	VALVE-REMOTE PRESSURE LIMITER	1	Breakdown Fig 17-5
3		82931001	FITTING-6MX4M JIC 45DEG.ELBOW	2	
4		68210037	HOSE-1/4X20 4FS JIC 5000 PSI	1	
5		53843189	HOSE-HYD..25X24-4FSJ-ST/ST-3000PSI-M3KMT	1	
6		250541001	BOLT-3/8-16 X 4” GR8 HEX Y/ZI	1	
7		238214001	BOLT 3/8-16 X 6” Gr8 HEX Y\ZINC	1	
8		250122001	JUMPER WIRE	1	
9		250123001	JUMPER WIRE	1	
10		59523001	FIT-4M JIC X 4M ADJ 90 DEG ELBOW	1	
11		60248001	TEE-4M JICX4M JICX4FS JIC	1	
12		83015001	FITTING-4F JIC DIAGNOSTIC	1	

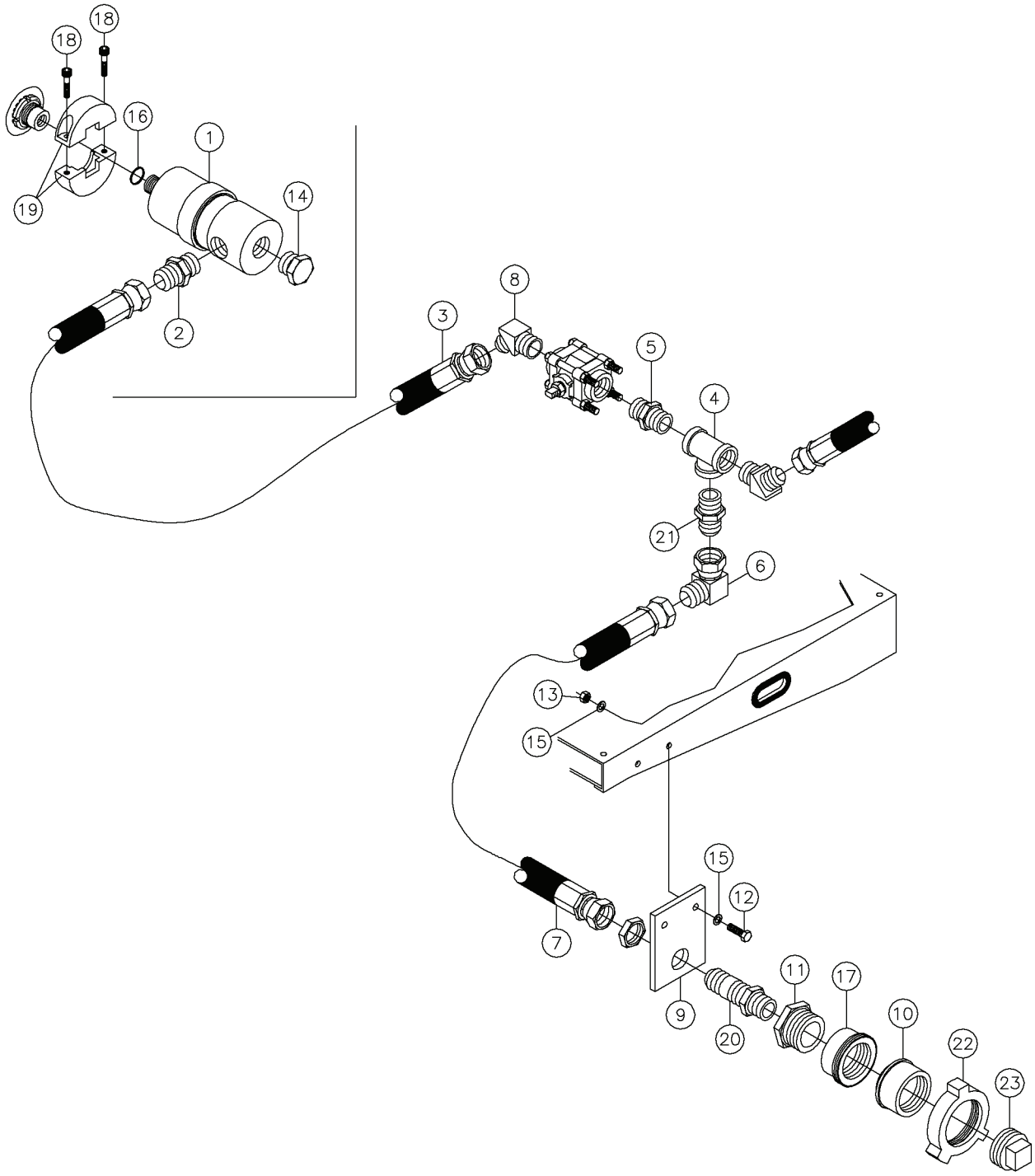
Pressure Limiter Valve Assy Fig 17-2r01



Pressure Limiter Valve Assy Fig 17-2r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Illustration & Parts List.
1		250115001	VALVE PRESSURE LIMITER G/F PC	1	Breakdown Fig 17-6
2	*	59423001	FIT-4M JICX4M ADJ.90 DEG.ELBOW	3	
3		53843359	HOSE-1/4X39 4FS JIC 3000 PSI	1	
4		53843706	HOSE-1/4X48 4FS JIC 3000 PSI	1	
5		81345001	FITTING-12F JICX4M JIC STR.	1	
6	*	250504001	BOLT 3/8-16 X 2 1/4"GR8 HEX Y	2	
7		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	4	
8		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	2	
9		59417001	12 JIC SW RUN TEE	1	
10		53843331	HOSE-1/4X86 4FS JIC 3000 PSI	1	
11	*	61498001	FITTING-4 JIC M X 4 JIC FS 45	1	

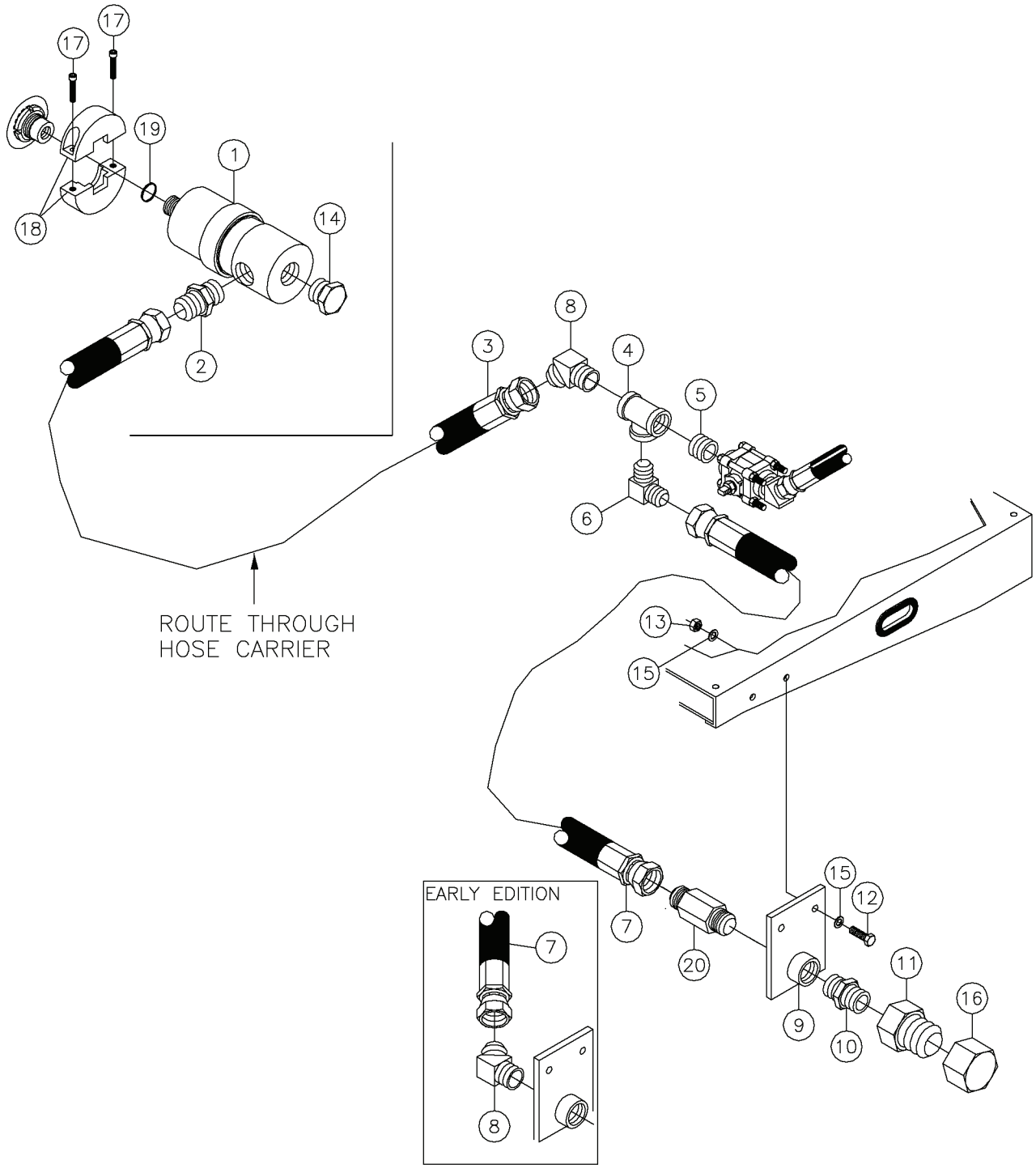
Water Lines Assy (S/N 1967 -) Fig 17-3r06



Water Lines Assy (S/N 1967 -) Fig 17-3r06

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		250117001	SWIVEL - TD-4-12-16-16	1	
2		60907001	FITTING-16M JICX16M STR ADAPT	1	
3		53846219	HOSE-1X172 16FS JIC 2500 PSI	1	
4		503271001	TEE-1” STEEL FEMALE PIPE	1	
5		59264001	1”NPT HEX NIPPLE	1	
6		60905001	16M JICX16FS JIC 90 DEG ELBOW	1	
7		53846359	HOSE-1X23 16FS JIC 2500 PSI	1	
8		60904001	1M NPT X 16M JIC 45 DEG ELBOW	1	
9		289226001	PLATE - AIR INLET	1	
10		296259781	FITTING-STR-32FNPT-3000PSI	1	
11		289227001	HEX REDUCER BUSHING - 2” NPT X 1” NPT	1	
12		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	2	
13		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	2	
14		81214001	PLUG- 16M	1	
15		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	4	
16		3211043	O-RING 119 BRAND DC7508	1	
17		296259780	UNION - MALE	1	
18		242906001	CAPSCREW-5/16 -18X1.50 SKTD ZNC	2	
19		283521001	BUSHINGS - 2 HALVES SWIVEL LOCK	1	
20		296256637	FITTING 16M JIC X 1” NPT BLKHD	1	
21		59269001	1 NPTX16 JIC ST ADAPTER	1	
22		296259779	NUT-WING-32HU-3000PSI	1	
23		732019	FITTING 2” PIPE PLUG BLACK	1	

Water Lines Assy (S/N 101-1966) Fig 17-3r05

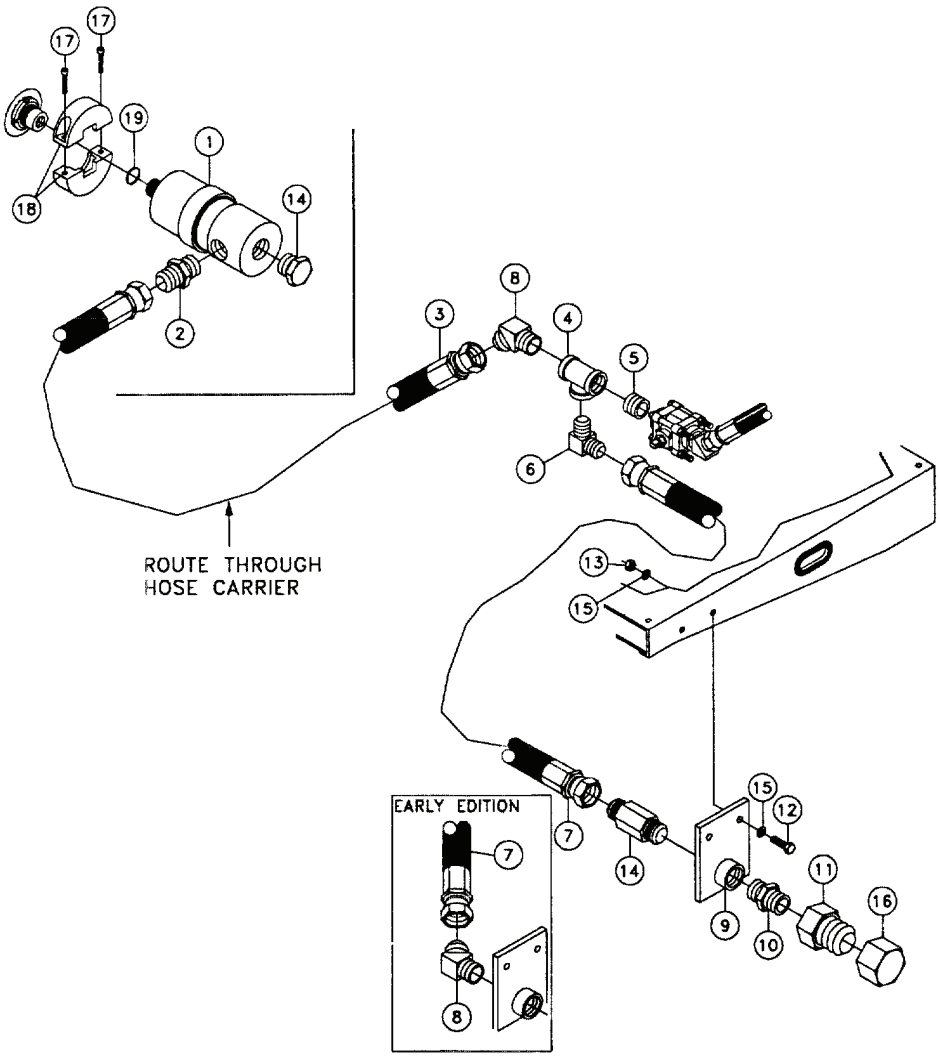


Water Lines Assy (S/N 101-1966) Fig 17-3r05

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Update In Illustration & Parts List. Update in Heading.
1		250117001	SWIVEL - TD-4-12-16-16	1	
1		250117003	REPAIR KIT - SWIVEL	1	
2		60907001	FITTING-16M JICX16M STR ADAPT	1	
3		53846219	HOSE-1X172 16FS JIC 2500 PSI	1	
4		725007	1” PIPE TEE BLACK	1	
5		736009	1” CLOSE NIPPLE BLACK STEEL	1	
6		61699001	1”NPT X 16M JIC 90	1	
7		53846359	HOSE-1X23 16FS JIC 2500 PSI	2	
8	*	60904001	1M NPT X 16M JIC 45 DEG ELBOW	1	
9		250114001	MOUNT - AIR INLET	1	
10		59264001	1”NPT HEX NIPPLE	1	
11		210778001	FITTING-1”F NPT X 24M JIC	2	
12		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	2	
13		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	1	
14		81214001	PLUG- 16M	4	
15		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	1	
16		86315001	FITTING - CAP - 24FJ	2	
17		242906001	CAPSCREW-5/16 -18X1.50 SKTD ZNC	1	Replaces 248031001, S/N 1164, 1184, 1187, 1191, 1193 -
18		283521001	BUSHINGS - 2 HALVES SWIVEL LOCK	1	
19		3211043	O-RING 119 BRAND DC7508	1	S/N 1164, 1184, 1187, 1191, 1193 -
20	*	284518001	FITTING - ADPT. 16 MJIC X 1 MNPT LONG	1	S/N 1164, 1184, 1187, 1191, 1193 -

Water Lines Assy Fig 17-3r04

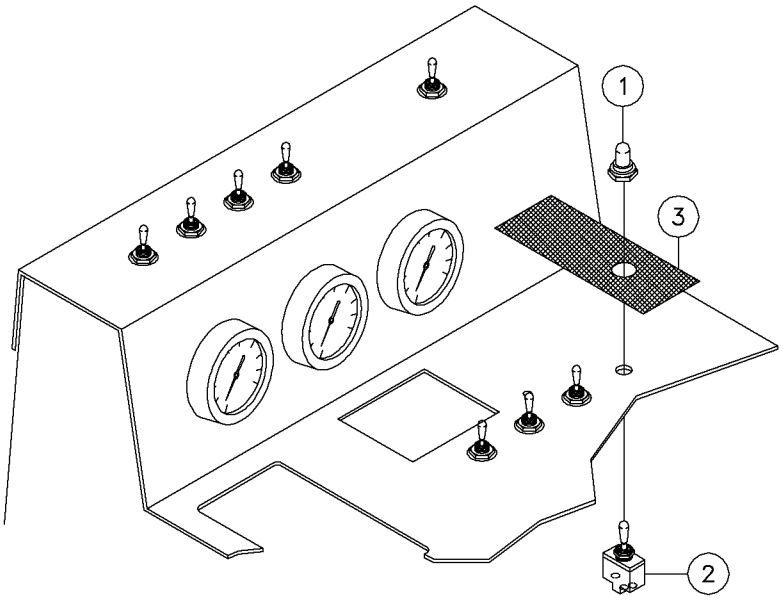
Revised February 2000 due to update in illustration & parts list. Changed/added parts marked with *.

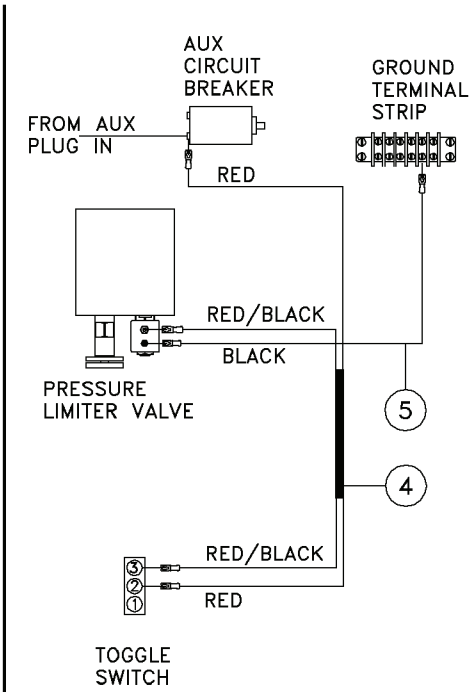


Water Lines Assy Fig 17-3r04

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	February, 2000		Update In Illustration & Parts List
1		250117001	SWIVEL - TD-4-12-16-16	1	
1		250117003	REPAIR KIT - SWIVEL	1	
2		60907001	FITTING-16M JICX16M STR ADAPT	1	
3		53846219	HOSE-1X172 16FS JIC 2500 PSI	1	
4		725007	1” PIPE TEE BLACK	1	
5		736009	1” CLOSE NIPPLE BLACK STEEL	1	
6		61699001	1”NPT X 16M JIC 90	1	
7		53846359	HOSE-1X23 16FS JIC 2500 PSI	2	
8	*	284518001	FITTING - ADPT. 16 MJIC X 1 MNPT LONG	1	Replaces 60904001, S/N 1164, 1184, 1187, 1191, 1193 -
9		250114001	MOUNT - AIR INLET	1	
10		59264001	1”NPT HEX NIPPLE	1	
11		210778001	FITTING-1”F NPT X 24M JIC	2	
12		235736001	BOLT-3/8-16X1 1/4 ZINC PLTD	2	
13		235725001	NUT - HEX - .38 - 16 - GR8 - YZ	1	
14		81214001	PLUG- 16M	4	
15		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	1	
16		86315001	FITTING - CAP - 24FJ	2	
17	*	242906001	CAPSCREW-5/16 -18X1.50 SKTD ZNC	1	Replaces 248031001, S/N 1164, 1184, 1187, 1191, 1193 -
18		283521001	BUSHINGS - 2 HALVES SWIVEL LOCK	1	
19	*	3211043	O-RING 119 BRAND DC7508	1	S/N 1164, 1184, 1187, 1191, 1193 -

Electrical Assy Fig 17-4r01

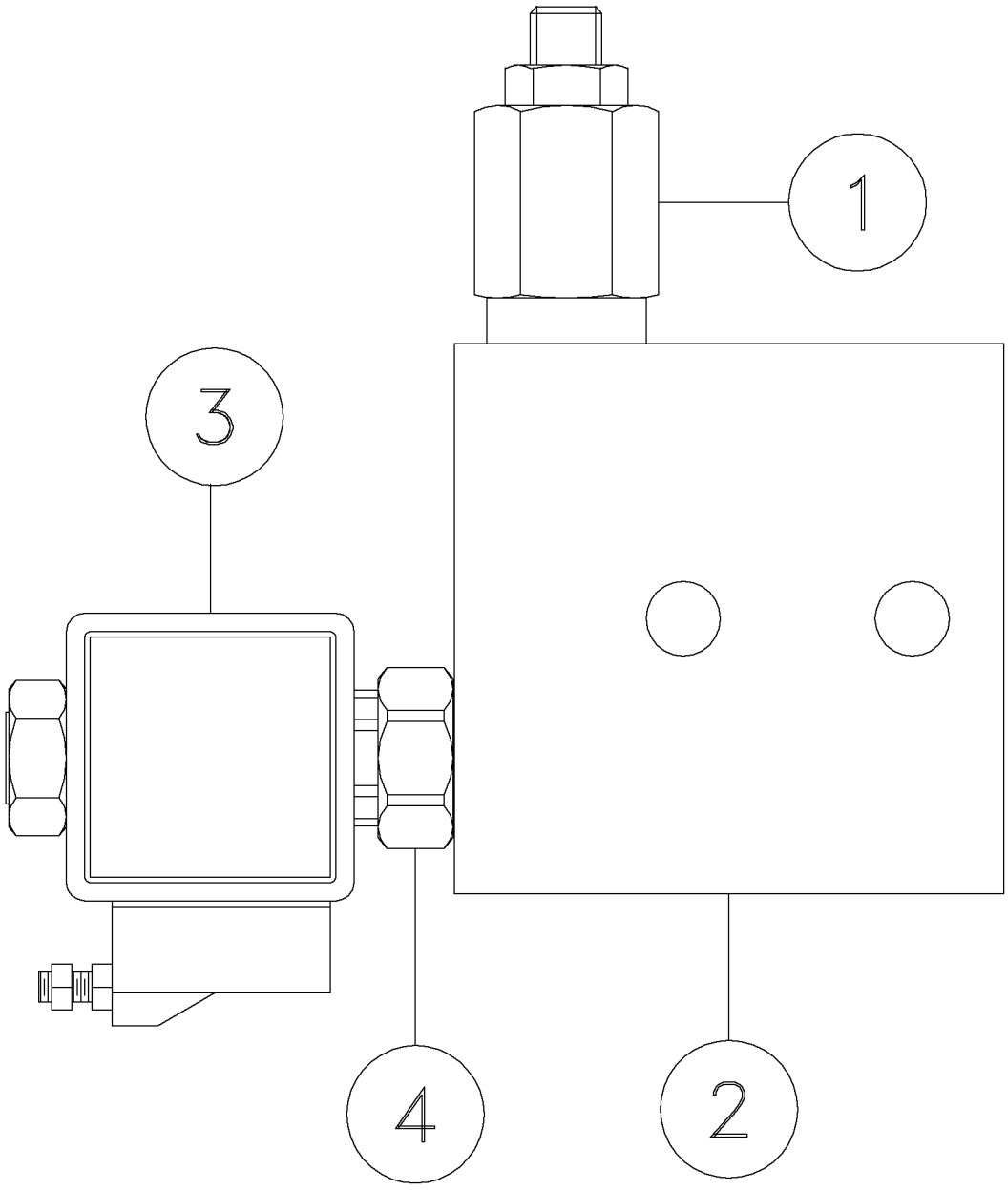




Electrical Assy Fig 17-4r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration.
1		5537001	COVER-TOGGLE SWITCH	1	
2		67292001	SWITCH-TOGGLE 8500K9 SEALED	1	
3		7000B116	DECAL - ROD LIMITER	1	
4		250124001	HARNESS THRUST LIMITER	1	
5		250125001	JUMPER WIRE	1	

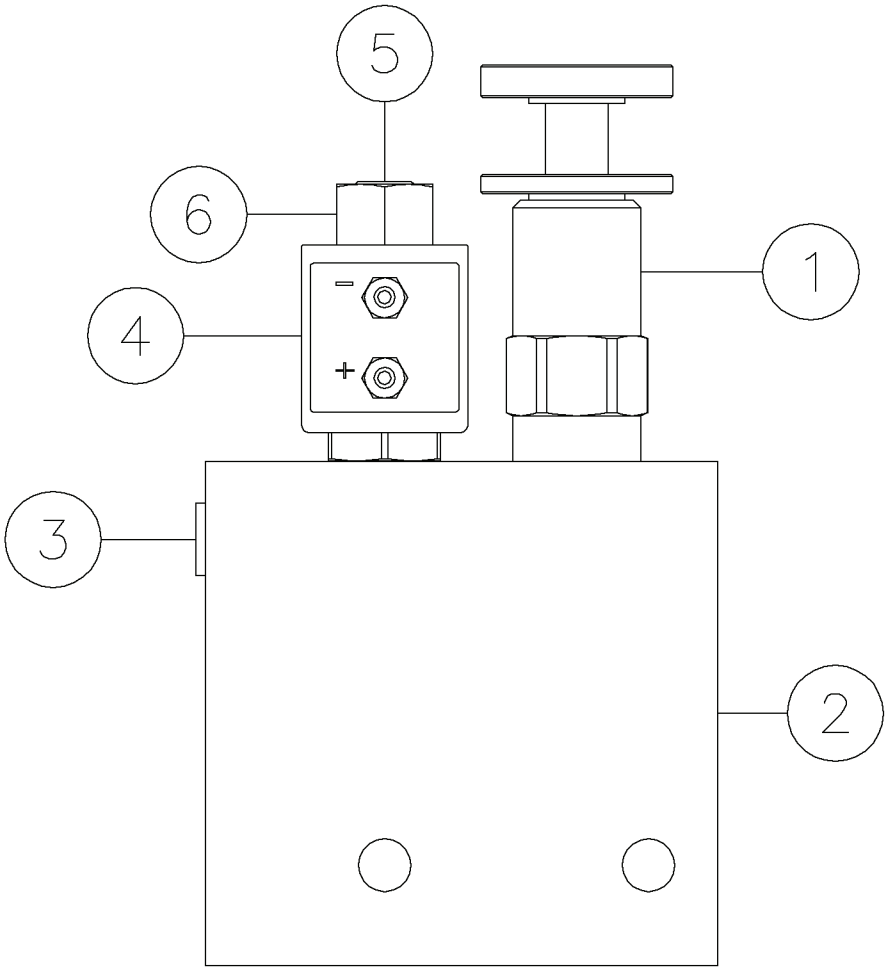
Pressure Limiter Valve Components Fig 17-5r01



Pressure Limiter Valve Components Fig 17-5r01

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration
1		250120003	VALVE - RELIEF	1	
2		122618001	SEAL-KIT SOLENIOD VALVE	1	
3		NSS	BODY-VALVE	1	
4		251063003	COIL	1	
5		250120005	VALVE - SOLENOID	1	
		228114007	SEAL KIT		
		250120001	VALVE-REMOTE PRESSURE LIMITER		Includes All Items In Figure

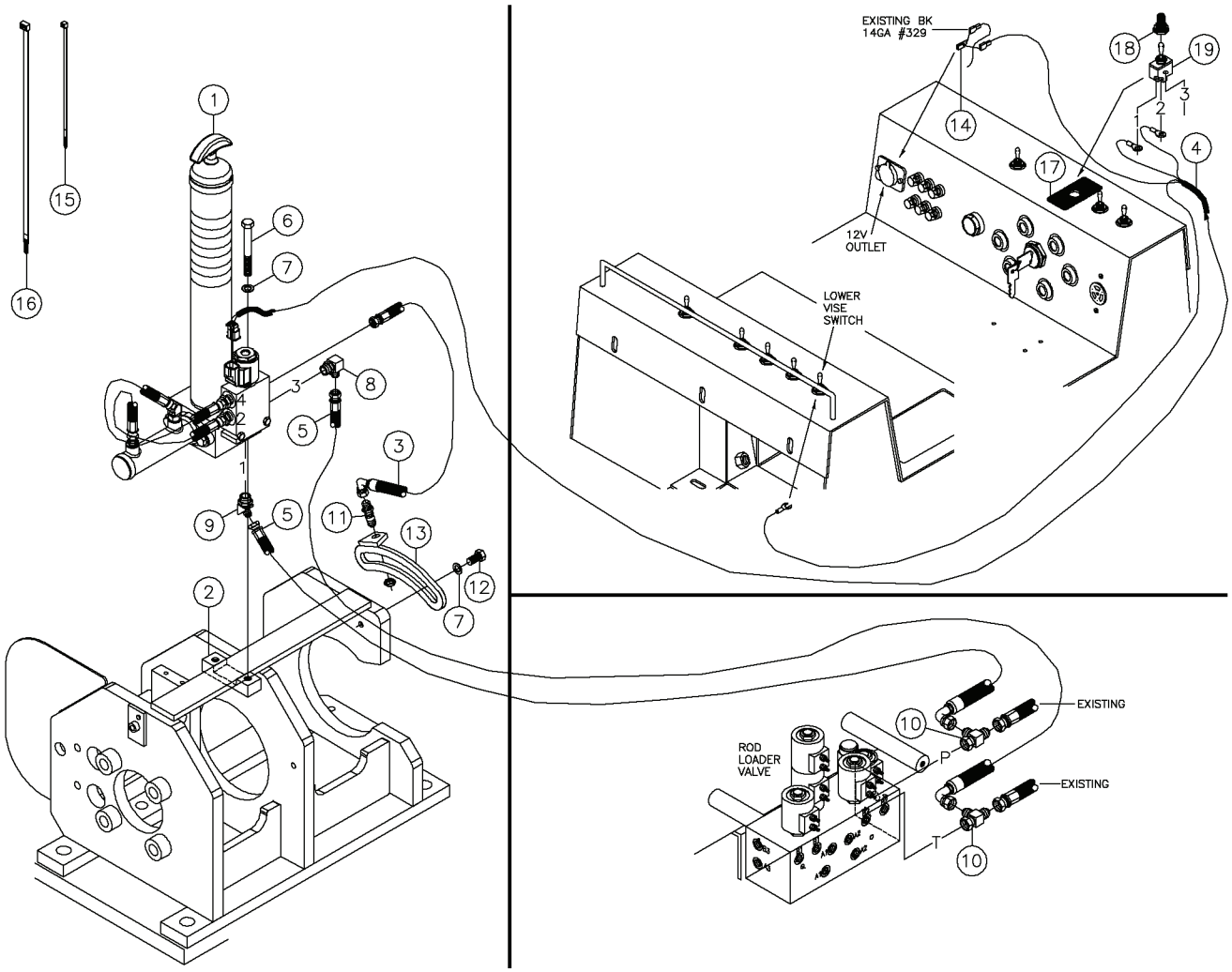
Pressure Limiter Valve Components Fig 17-6



Pressure Limiter Valve Components Fig 17-6

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	July, 2000		Update In Illustration
1		250115003	VALVE-PRESSURE REDUCING	1	
		236316005	SEAL KIT	1	
2		NSS	BODY-VALVE	1	
3		240324011	PLUG-SAE	1	
4		240941003	COIL	1	
5		250115005	CARTRIDGE -SOLENOID VALVE	1	
		228128009	SEAL KIT	1	
6		250115007	NUT - COIL		
		250115001	VALVE PRESSURE LIMITER G/F PC		Includes All Items In Figure

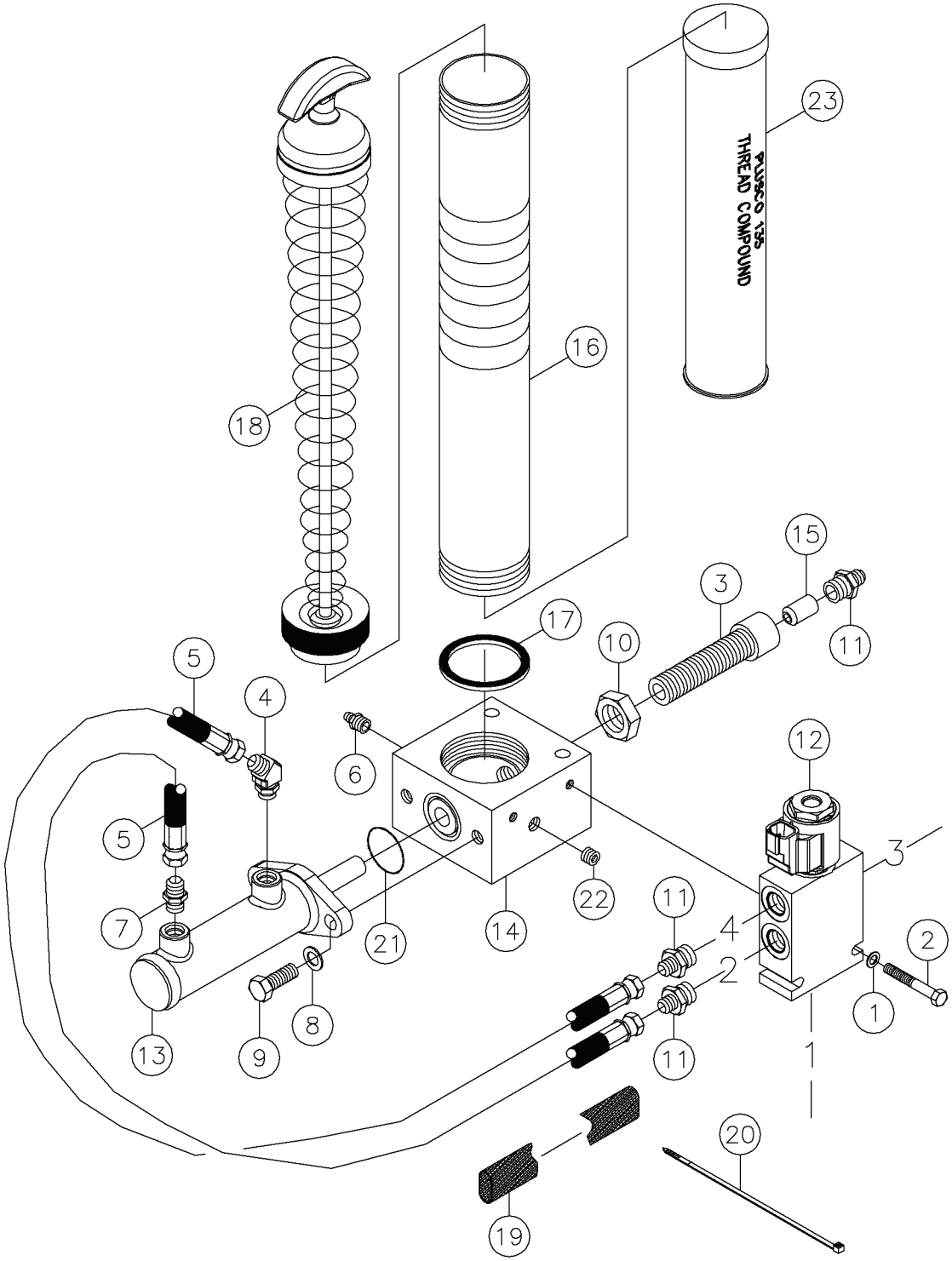
Auto Greaser Assy Fig 18-1



Auto Greaser Assy Fig 18-1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		294900001	GREASE PUMP AY - VAR DISP	1	Breakdown Fig. 18-2
2		294908001	BAR - BLOCK MOUNT	1	
3		53843681	HOSE-1/4X11 4FSJIC-4FSJIC 90	1	
4		294909001	HARNESS - WIRE 24X40A GREASER	1	
5		296265780	HOSE - 3/8 X 103, 6FS ST 3000PSI	2	
6		240377001	BOLT-3/8-16X3 1/4 GR8 ZINC PLT	2	
7		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	4	
8		59426001	FITTING - 90-6MJ-6MORBA	1	
9		65563001	FITTING - 6M O-RING X 6M JIC 45 DEGREE	1	
10		59427001	TEE-6MJ-6FSJ-6MJ	2	
11		65564001	FITTING - 4M JIC BULKHEAD ST.	1	
12		235726001	BOLT-3/8-16X3/4 GR8 HEX ZNCPLT	2	
13		296265785	MOUNT - NOZZLE	1	
14		4725001	ADAPTER-WIRE(ETC)#VWA-O	1	
15		59634001	NYTIE - 8”	15	
16		58151001	STRAP-CABLE TIE-T120R-0 15”	5	
17		700IB914	DECAL - AUTO GREASER	1	
18		5537001	COVER-TOGGLE SWITCH	1	
19		236411001	SWITCH-SPDT ON-OFF-ON (ITL1-5)	1	

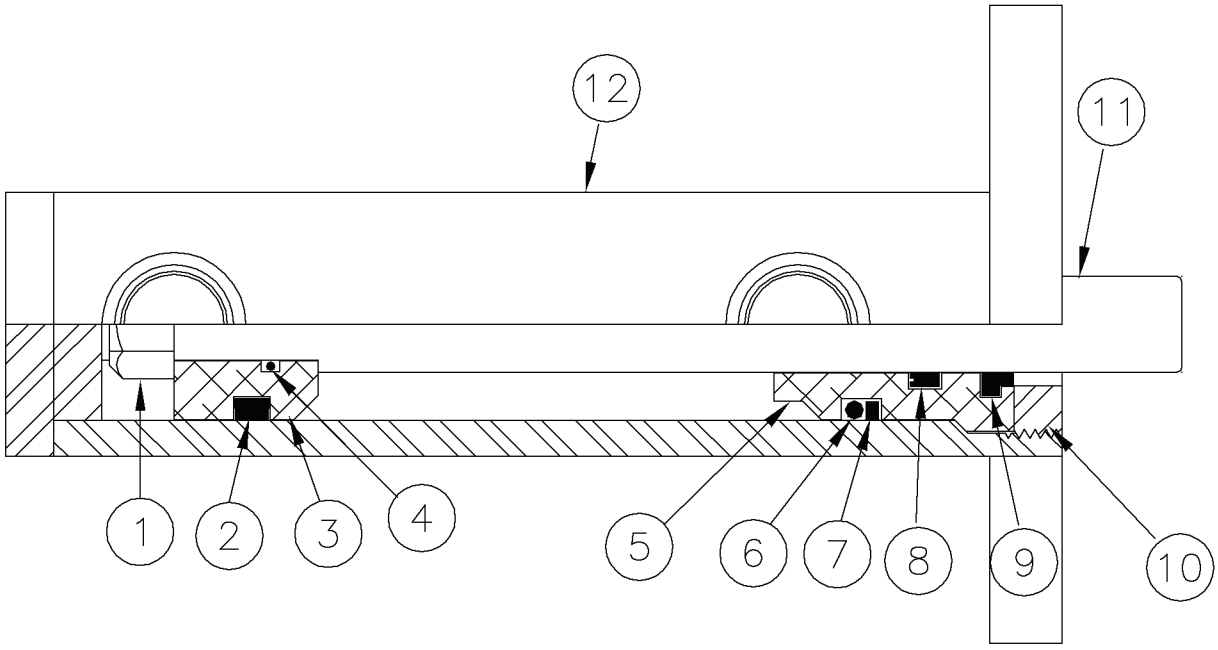
Auto Greaser Components Fig 18-2



Auto Greaser Components Fig 18-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		510337603	WASHER-FLATSTD-.25-.31X.75-.07-YZ	2	Breakdown Fig. 18-2
2		248107001	BOLT-1/4-20X1 3/4 GR 8 ZINC PL	2	
3		294896001	SLEEVE - GREASE PUMP	1	
4		58295001	FITTING-4M OR X 4M JIC 45 DEG.	1	
5		53843195	HOSE-1/4X16 4FS JIC 3000 PSI	2	
6		586001	ZERK-1/8” ST NPT GREASE	1	
7		60908001	FITTING-4MX4M JIC STR ADAPTER	1	
8		235713001	WASHER - FLATSTRL - .38 - .41 X .81 - .06-YA-A325	2	
9		235727001	BOLT-3/8-16X1 GR8 HEX ZINC PLT	2	
10		456001	NUT-3/4 N.F. HEX JAM	1	
11		57968001	FITTING-STR-4MJ-6MORB	3	
12		294901001	VALVE - GREASER	1	Breakdown Fig. 18-4
13		294899001	CYLINDER - HYD 1 X 2-3/8	1	Breakdown Fig. 18-3
14		294895001	HOUSING - GREASE PUMP	1	
15		294905001	VALVE - INSERT CHECK, 1/2”	1	
16		294910001	TUBE - GREASE	1	
17		294902001	GASKET - GREASE TUBE	1	
18		294903001	FOLLOWER - GREASE TUBE AY	1	
19		235824001	CORDURA SLEEVE-NHS-090	A/R	P/N Qty Of 1=32 Inches
20		59634001	NYTIE - 8”	4	
21		296262010	O-RING - 213 .139 X .921 ID	1	
22		296258613	FITTING -1/8 NPT HEX SOCKET - .25L	1	
23		296262012	THRD CMPND-PLUSCO 135-SINGLE CARTRIDGE	1	
		275927982	THRD CMPND - PLUSCO 135 - 10 PACK	A/R	P/N Qty Of 1=1 Set Of 10 Cartridges
		275928982	THRD CMPND - PLUSCO 135 - 4/10 PACK	A/R	P/N Qty Of 1=4 Sets Of 10 Cartridges
		294900001	GREASE PUMP AY - VAR DISP		Incl. All Items in Figure

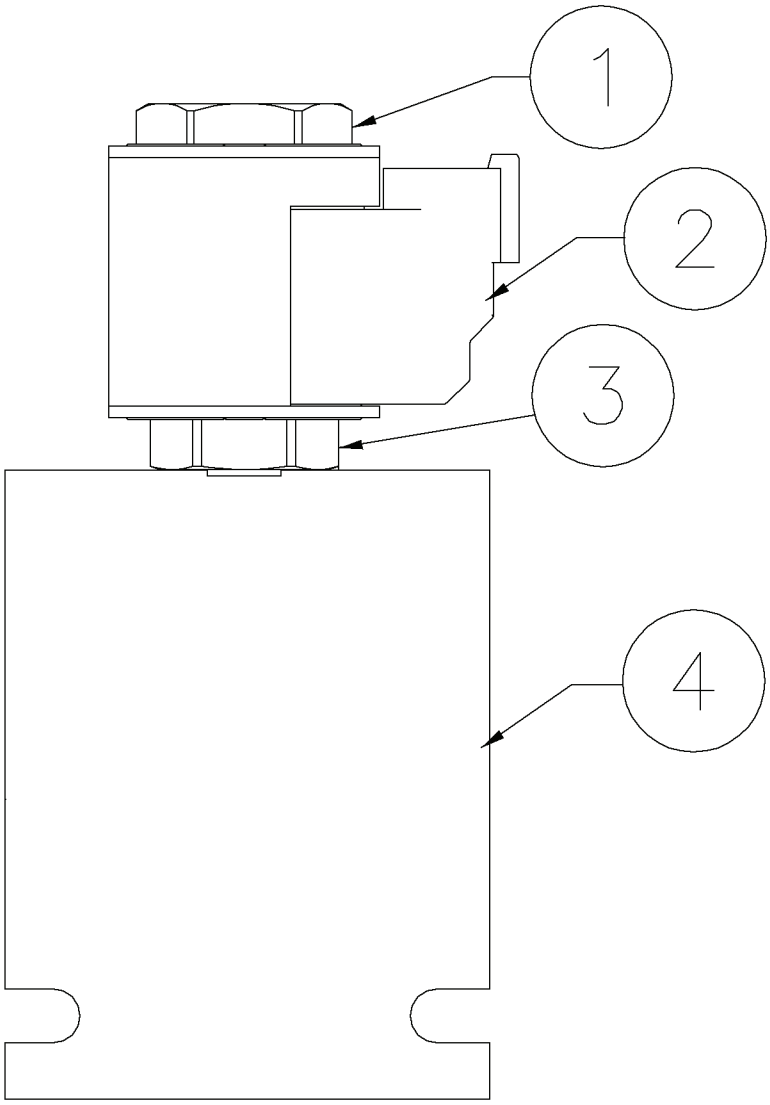
Auto Greaser Cylinder Components - 1" x 2 3/8" Fig 18-3



Auto Greaser Cylinder Components - 1" x 2 3/8" Fig 18-3

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		236113003	NUT	1	
2		NSS	PSP-SEAL	1	
3		296251772	PISTON	1	
4		NSS	O-RING	1	
5		234359007	HEAD	1	
6		NSS	O-RING	1	
7		NSS	BACKUP	1	
8		NSS	ROD SEAL	1	
9		NSS	DUST SEAL	1	
10		234359013	COLLAR	1	
11		296265525	ROD-CYLINDER	1	
12		296265524	BODY-CYLINDER	1	
		294899001	CYLINDER - HYD 1 X 2-3/8	1	Inc. All Items In Figure
		296251775	SEAL KIT	1	
		NSS	Not Sold Separately		

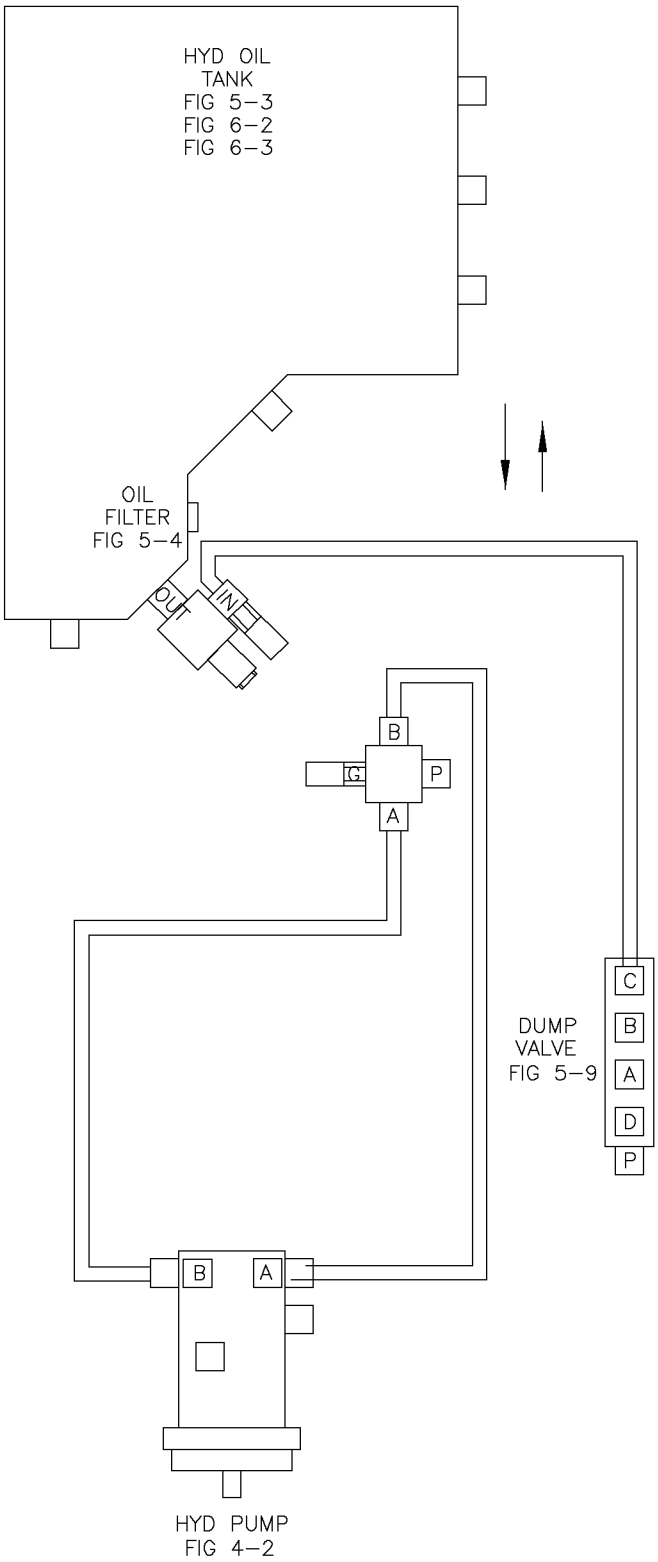
Auto Greaser Valve Components Fig 18-4



Auto Greaser Valve Components Fig 18-4

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		296265526	NUT-COIL	1	
2		296265527	COIL	1	
3		244725009	CARTRIDGE - SOLENOID	1	
		244725011	SEAL KIT	1	
4		NSS	BLOCK	1	
		294901001	VALVE - GREASER		Inc. All Items In Figure
		NSS	Not Sold Separately		

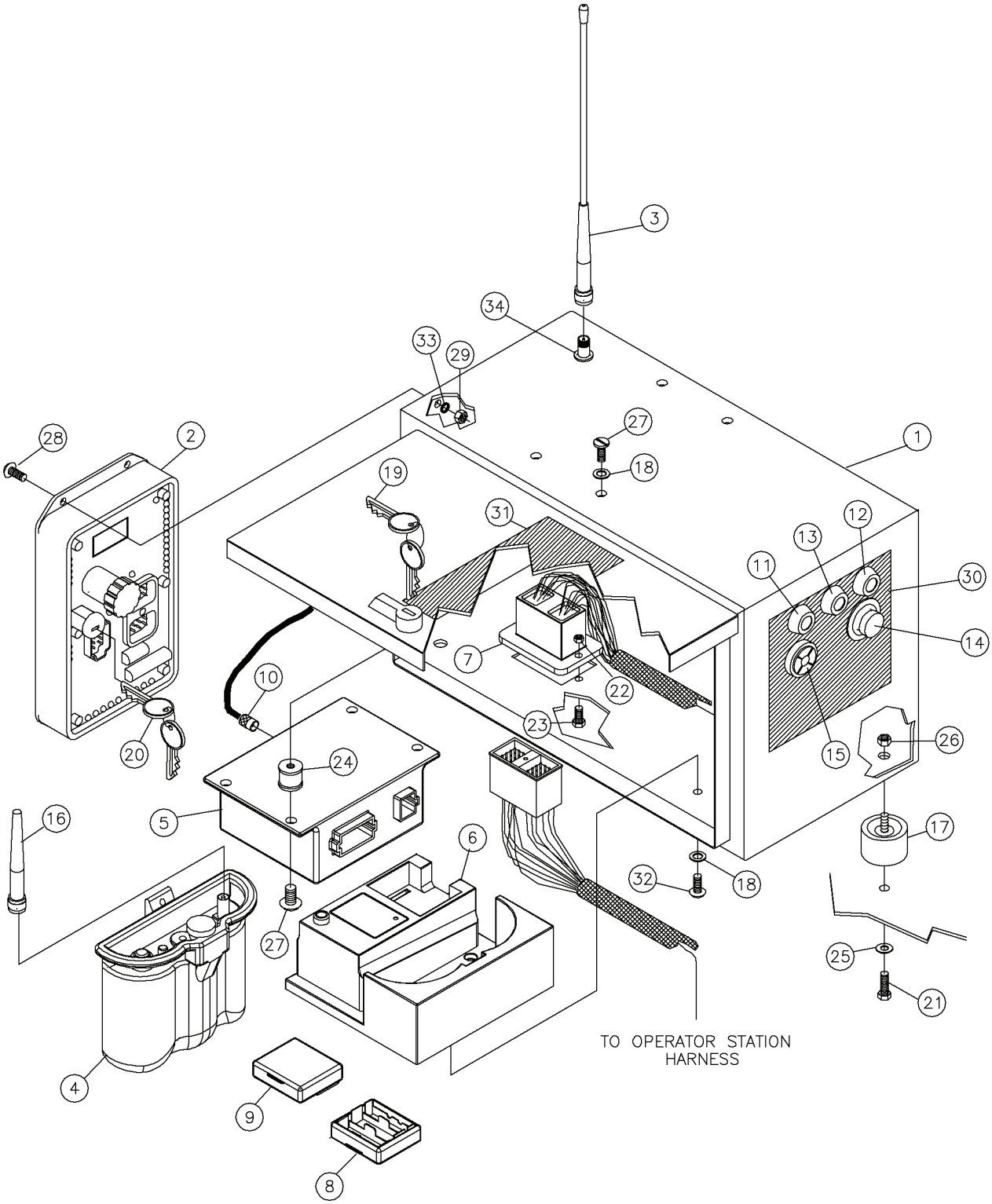
Hyd Components Location Diagram - Remote Lockout Fig 19-1



Hyd Components Location Diagram - Remote Lockout Fig 19-1

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual

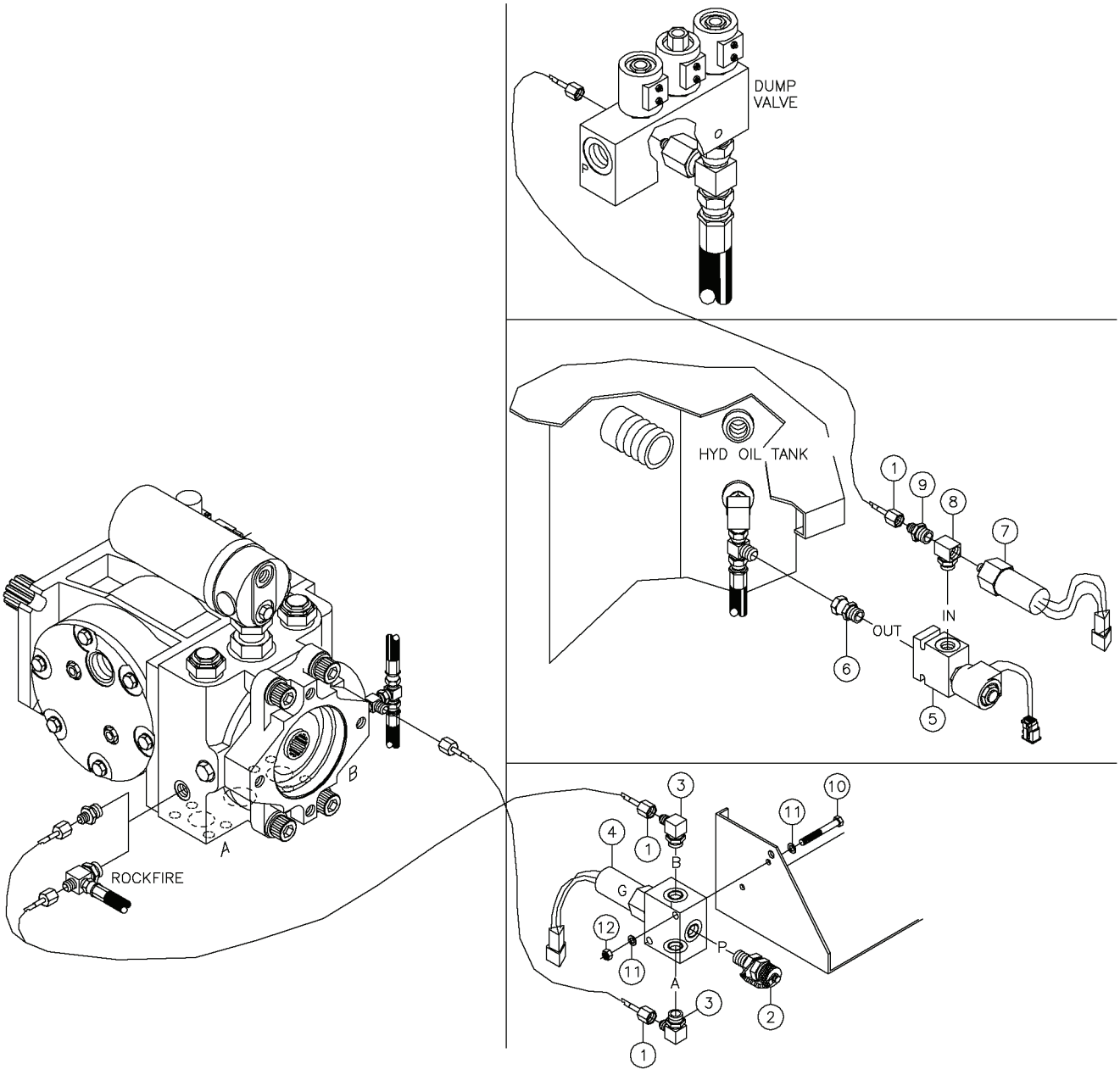
Remote Lockout Assy Fig 19-2



Remote Lockout Assy Fig 19-2

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		287712001	BOX - REMOTE LOCKOUT	1	
2		286905001	REMOTE LOCKOUT OVERRIDE	1	
3		286918001	REMOTE LOCKOUT ANTENNA	2	
4		278560001	REMOTE LOCKOUT RADIO KIT (LOST TX 458)	1	
5		278530001	REMOTE LOCKOUT RADIO KIT (LOST RX 458)	1	
6		286903001	REMOTE LOCKOUT DOCKING STATION	1	
7		287711001	HARNESS - LOCKOUT BOX	1	
8		296250302	BATTERY HOLDER 3-AA	1	
9		296250300	BATTERY - 3.5 VOLTS 1.2 AH	1	
10		296252952	WIRE REMOTE LOCKOUT ANTENNA .5 METER	1	
11		27148001	LIGHT-RED WARNING	1	
		70889001	BULB. #112-1418	1	
12		81374001	LIGHT-GREEN WARNING #338-8049	1	
		70889001	BULB. #112-1418	1	
13		86581001	LIGHT-WARNING (AMBER)	1	
		70889001	BULB. #112-1418	1	
14		260766001	SWITCH-MOM BUTTON NO	1	
15		286920001	REMOTE LOCKOUT BUZZER	1	
16		296252545	REMOTE LOCKOUT MINIFLEX ANTENNA	1	
17		287706001	MOUNT - 50 DUROMETER X 1.5 X 1.0	4	
18		235716001	WASHER - FLATSTRL - .25 -.28 X .63 - .06 - CZ	8	
19		296252962	KEY LOCK - RLE BOX	1	
20		296265539	KEY - SET OF TWO	1	
21		235742001	BOLT-5/16-18X3/4 GR8 ZINC PLTD	4	
22		399001	NUT-8-32 HEX	2	
23		57200001	SCREW-#8-32X1/2 RND.HD.MACH.	2	
24		296252528	MOUNT, SHOCK RX M6X10	4	
25		235714001	WASHER - FLATSTRL - .31 - .34 X .69 - .06-YZ-A325	4	
26		235741001	NUT - HEX - .31 - 18 - GR8 -YZ	4	
27		506031010	SCREW-HCS,M6-1.00X10,8.8,YZ,D933,FT	8	
28		504543001	SCREW - 10-32X3/4 RH M/S ZP	4	
29		26692001	NUT-10-32 NF HEX	4	
30		700IB809	DECAL - REMOTE LOCKOUT	4	
31		7000B811	DECAL - DANGER - RLE - DOMESTIC	1	
		700IB811	DECAL - DANGER - RLE - INTERNATIONAL	1	
32		533006	SCREW 10-24 X RD HD SLT “ REPLACED BY “1802006”	4	
33		480001	WASHER-3/16 S/T LOCK	4	
34		296250301	CONNECTOR BULK HEAD	1	

Remote Lockout Hyd Assy Fig 19-3



Remote Lockout Hyd Assy Fig 19-3

REF. NO.	*	PART NO.	DESCRIPTION	QTY.	REMARKS
		Revision Date	September, 2002		Addition To Manual
1		285556001	HOSE - .078 X 18 4 FS JIC ST/ST 6900 PSI	3	
2		72056001	FITTING-TEST-6MORB-16MTP	1	
3		57950001	FITTING-90-4MJ-6MORBA	2	
4		296260319	VALVE - SHUTTLE W/PRESSURE SWITCH	1	
		296260320	SWITCH - 500 PSI PRESSURE	1	
		296267116	SHUTTLE VALVE	1	
		260040007	SEAL KIT	1	
5		296260318	VALVE - LOAD DUMP	1	
		296265540	VALVE - SOLENOID	1	
		296251283	SEAL KIT	1	
		251117009	COIL - #8	1	
		296265541	NUT - SOLENOID	1	
6		93411001	6M O-RINGX6FS JIC STR ADAPTER	1	
7		296260320	SWITCH - 500 PSI PRESSURE	1	
8		296260314	FITTING - 6MOR X 6FOR X 6FOR TEE	1	
9		57968001	FITTING-STR-4MJ-6MORB	1	
10		250531001	BOLT-1/4-20 X 2 GR8 HEX Y/ZINC	2	
11		235716001	WASHER - FLATSTRL - .25 -.28 X .63 - .06 - CZ	4	
12		235732001	NUT - HEX - .25 - 20 - GR8 - YZ	2	

This page intentionally left blank.

Revision History

REVISION	DATE	PAGE(S)	DESCRIPTION
P2.13	September, 2002	All	2nd Edition, 13th Revision, Converted To Two-Page Format
P2.14	October, 2002	TOC, 1-1, 1-2, 1-3, 1-4, 2-2, 2-3, 2-6, 2-11, 3-2, 3-6, 3-7, 4-1, 4-2, 4-5, 4-7, 4-11, 4-17, 5-3, 5-8, 5-9, 5-21, 6-3, 6-5, 6-7, 6-8, 7-1, 7-2, 7-4, 7-7, 8-2, 8-5, 8-6, 8-7, 8-13, 10-3, 10-4, 10-6, 10-7, 10-9, 10-10, 11-2, 11-6, 11-7, 15-2, 15-3, 15-6, 15-8, 17-1, 17-3 Added Pages 1-1x01, 1-1x02, 1-1x03, 1-1x04, 1-1x05, 1-1x06, 1-2x01, 1-2x02, 1-2x03, 1-2x04, 1-2x05, 1-2x06 & Sections 18 & 19	2nd Edition, 14th Revision, Released
P2.15	January, 2004	TOC 1-2, 1-3, 1-4, 1-5, 1-6, 6-6, 8-2, 8-9, 10-10	2nd Edition, 15th Revision, Released
P2.16	January, 2004	TOC 10-10	2nd Edition, 16th Revision, Released
P2.17	March, 2004	TOC 8-9-8-16	2nd Edition, 17th Revision, Released
P2.18	February, 2005	TOC 10-2	2nd Edition, 18th Revision, Released
P2.19	January, 2008	TOC 11-2	2nd Edition, 19th Revision, Released
P2.20	March, 2008	TOC 4-11, 4-15, 4-16	2nd Edition, 20th Revision, Released