R-Series Rubber Track Loaders

Guide to Machine Operation and Maintenance



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Warning! Read and understand this manual before operating any Rubber Track Loader. Failure to follow instructions could result in injury or death.

RC-85 • RC-100

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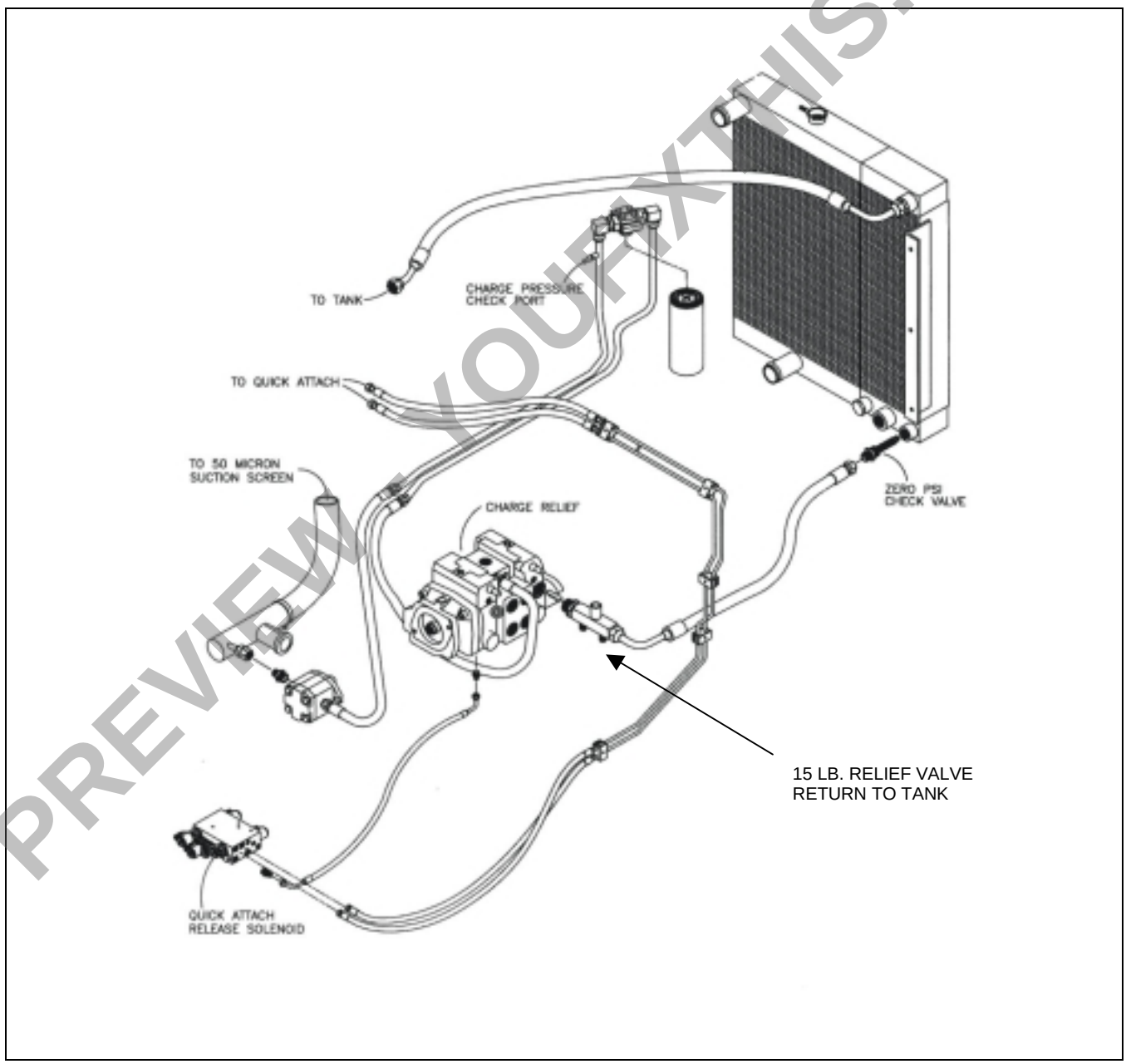
3. System Diagrams

Chapter Overview

This chapter contains diagrams for the following RC-100 systems: hydraulic charge system, auxiliary circuit system, drive loop system, loader valve, solenoid block, and electrical attachment outlet

Hydraulic Charge System

Figure 3-1 RC-100 Hydraulic Charge System



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Machine Specifications

General Dimensions	RC-85	RC-100
Height to top of ROPS:	80 in. / 2023 mm	
Ground clearance:	14 in. / 356 mm	
Max. lift height, at hinge pin:	125 in. / 3175 mm	
Length of undercarriage:	90 in. / 2293 mm	
Machine length, w/out bucket:	117.5 in. / 2985 mm	
Machine length, with bucket:	148 in. / 3760 mm	
Machine width:	69 in. / 1753 mm	

Track Specifications		
Track width:	18 in. / 457 mm	
Length of track on ground:	72.5 in. / 1842 mm	

Machine Weight		
Weight without bucket (shipping):	8,800 lb / 3992 kg	9,200 lb / 4173 kg
Weight with bucket (operating):	9,710 lb / 4405 kg	10,150 lb / 4604 kg
Ground pressure:	3.3 psi / 22.7 kPa	3.5 psi / 24 kPa
Ground contact area:	2,610 $in.^2$ / 1.68 m^2	

Specifications are subject to change without notice.

SAE J818 standards define operating capacities of rubber-tired skid steers (50% tipping load) and tracked loaders (35% tipping load). There are no standards defining the operating capacity of machines equipped with a suspended undercarriage or machines with rubber tracks.

Engine	RC-85	RC-100
Model:	Perkins 1104C-44	Perkins 1104C-44T
Type:	4-cylinder diesel	
Displacement:	268 $in.^3$/4.4 liter	
Gross HP @ 2300 rpm:	86 hp / 64 kW	99.5 hp / 74 kW
Torque (peak):	222 ft-lb / 302 Nm	304 ft-lb / 412 Nm

Operating Specifications		
Operating capacities:		
35% tip load:	2,380 lb / 1080 kg	2,660 lb / 1207 kg
50% tip load:	3,400 lb / 1542 kg	3,800 lb / 1724 kg
Travel speed (low/high) max.:	6 mph / 9.7 kmh	5/10 mph / 8/16 kmh

Auxiliary Hydraulic Pump	
Low flow, max.:	20 gpm / 76 lpm
High flow, max.:	38 gpm / 144 lpm
Pressure:	3,300 psi / 22 737 kPa

Service Refill Capacities	
Fuel tank:	26 gal / 98 L
Hydraulic tank*:	20 gal / 76 L
Engine coolant*:	3.125 gal / 12 L
Engine oil, including filter*:	8.5 qt / 8 L

** When replacing or replenishing these lubricants/fluids, it is recommended that you specify genuine ASV Posi-Lube™ products from your ASV Dealer.*

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Loader and Drive Controls

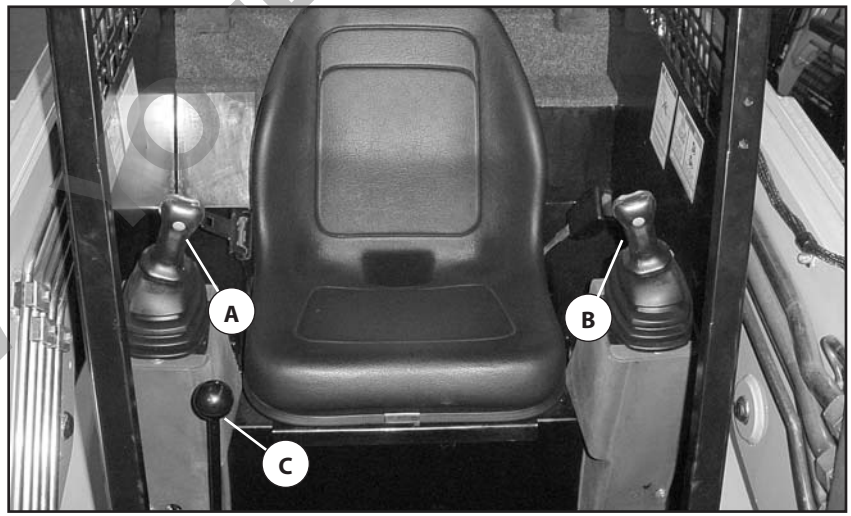
The RC-85 and RC-100 have two hydraulic pilot joystick controls. These two joysticks are used to control machine speed, direction, lift arms and bucket or attachment. Joystick A (photo right) is used to control the lift arms, the bucket and the float position. To engage the float position the joystick is moved all the way forward with a quick motion, the joystick will then be held in detent. To disengage, quickly pull back. Joystick B controls direction and speed of the machine.

Control Options

Some RC-85's and RC-100's might have a "Case type" control set-up. This configuration uses the same type of joysticks, but with a different pattern used to control the machine. This pattern has joystick A, controlling both the right track and also bucket curl and dump. Joystick B controls the left track and also lift arm up/down and float position. The float position with this configuration does not have a detent position, and must be manually held in the float position.

Throttle

The throttle C, controls engine rpm. Use a lower rpm for work that requires delicate operation of the machine. Use faster rpm when faster travel speed, maximum horsepower, or maximum flow is required.



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Pre-Start Checklist

Before operating an Rubber Track Loader, inspect the machine. Look for any loose or worn parts. This inspection will help avoid machine damage or personal injury during operation.

Check for proper:

1. Track tension;
2. Fluid levels;
3. Fan belt tension and condition;
4. Hoses (no visible signs of wear);
5. Fittings (no leaks);
6. Battery cables;
7. Controls for neutral;
8. Power quick-attach engaged. (RC-100 only)

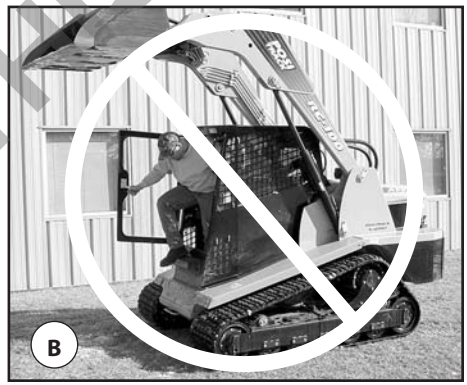
Starting Procedure

Before starting the engine, perform the pre-start checklist then proceed with the following procedure:

1. Enter machine with lift arms all the way down. Maintain a three-point contact with the machine (photo A).



2. Fasten seat belt, and lower lap bar into position.
3. Starting with the throttle in the SLOW position, push the throttle 1/3 the way open.
4. Turn the ignition key to the left for 6 seconds to “pre-heat” the engine. While pre-heating, the glow plug operation light will illuminate.
5. Turn the ignition key to the right to start the engine.
6. Run the engine at low idle for 3 to 5 minutes to warm up the engine.



!WARNING! Entering or exiting the vehicle under raised lift arms could cause serious injury or death. Never allow anyone to be underneath raised, unsecured lift arms (photo B).

7. Set throttle to desired rpm.

NOTE: The parking brake is automatically engaged when the engine is turned off, the operator is not in the seat or the lap bar is raised.

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Engine Oil and Filter Change

Under normal conditions, the engine oil should be changed every 250 hours or six months; which ever comes first. Engines which are operated under harsh conditions should have the oil changed every 100 hours or 3 months, which ever comes first. Harsh conditions include: continuous high load applications, operation in high temperatures, or abnormally dusty/dirty conditions.

To change the oil and filter:

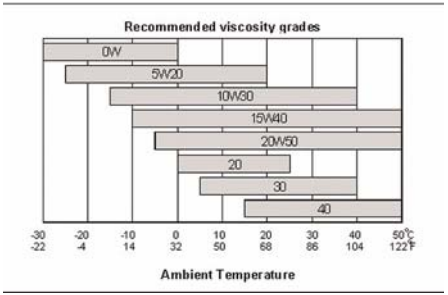
1. Run engine for a few minutes to warm the engine oil.
2. Remove the drain plug from oil pan.
3. Drain the oil into suitable container.
4. Remove engine oil filter, make sure gasket is also removed. It may be necessary to remove the rear skid plate to access the filter.
5. Apply fresh oil to the new filter gasket and install it onto the filter head.
6. Tighten the filter to the specification found on the filter label or box.
7. Reinstall drain plug, and refill engine to capacity with oil as specified.

Engine Oil Specifications:

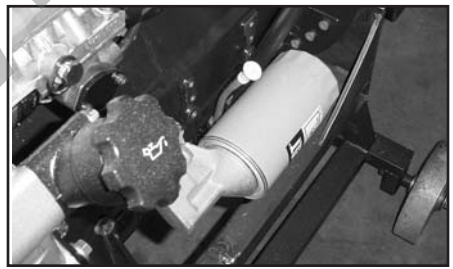
- **ASV Posi-Lube™ 10W30 Heavy Duty Engine Oil**

You may also use a quality engine oil substitute with one of the following minimum specifications:

- API CH-4 multigrade oil.









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1. Product Safety

Chapter Overview

This chapter contains product safety information for the RC-100 Rubber Track Loaders. Read this chapter and understand all safety messages and information messages before attempting to service the machine.

Safety Messages

Safety messages are provided in this document and on the machine. If these hazard warnings are not heeded, bodily injury or death could occur to you or other persons.

Hazards are identified by the Safety Alert Symbols **!DANGER! … . !WARNING!….!CAUTION!**.

The meaning of these safety alerts is as follows: **Attention! Become Alert! Your Safety is Involved.**

The message that appears under a Safety Alert Symbol explains the hazard and can be either written or pictorially presented.

! DANGER !

This symbol is used to alert service personnel of an imminently hazardous situation that will result in serious injury or death.

! WARNING !

This symbol is used to alert service personnel of a potentially hazardous situation that could result in serious injury or death.

! CAUTION !

This symbol is used to alert service personnel of an unsafe practice that could result in injury.

Information Messages

Information messages are provided in this document and on the machine. These messages are identified by the labels **NOTICE….Note**.

NOTICE

This label is used to alert service personnel to the possibility of damaging the equipment.

Note: This label is used to provide important additional information, comments, explanations or amplification of the accompanying subject matter.

The person servicing the Rubber Track Loader may be unfamiliar with many of the systems on the machine. This makes it important to use caution when performing service work. Knowledge of the system and/or components is important before the removal or disassembly of any component.

It is not possible to anticipate every circumstance that might involve a potential hazard. The safety messages in this document and on the product are, therefore, not all inclusive. If you use a tool, procedure, work method or operating technique that is not specifically recommended by the manufacturer, you must satisfy yourself that it is safe for you and for others. You should also ensure that the product will not be damaged or be made unsafe by the operation, lubrication, maintenance or repair procedures that you choose.

Basic Precautions

! WARNING !

Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.

Do not operate or perform any lubrication, maintenance or repair on this product until you have read and understood the operation, lubrication, maintenance and repair information.

Following is a list of basic precautions that should always be observed.

Safety Signs

Read and understand all "Safety" signs on the product before operating, lubricating or repairing this product. Replace any damaged, illegible or missing safety plates, signs or decals.

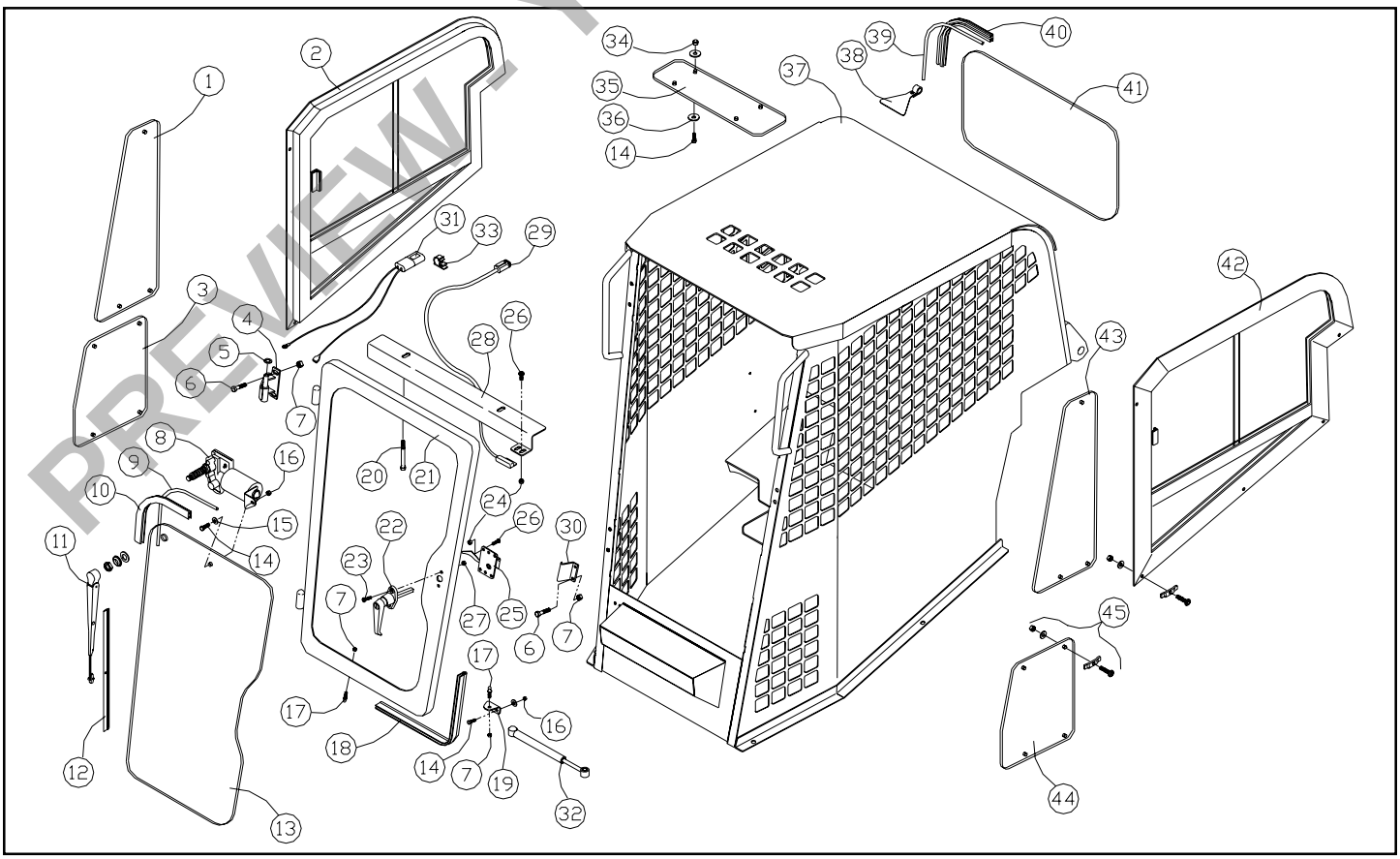
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CAB ENCLOSURE ASSEMBLY

REF. NO.	PART NUMBER	QTY	DESCRIPTION
1	0402-760	1	GLASS,UPPER,RH
2	0402-769	1	GLASS,SLIDER,SINGLE,RH
3	0402-762	1	GLASS,LOWER,RH
4	0304-480	2	WLMT,HINGE,DOOR
5	0314-208	2	BUSHING,HINGE
6	8102-136	6	CAPSCREW,HH,5/16-18x1.75 ZN GD
7	8040-426	8	NUT,HEX,NYLOCK,5/16-18 UNC,ZN
8	0304-619	1	MOTOR,WIPER,85^
9	0310-495	10'	STRIP,LOCK
10	0304-674	1	SEAL,WINDOW,10FT
11	0402-243	1	ARM,WIPER,15-19"
12	0402-244	1	BLADE,FLAT,18"
13	0304-433	1	WINDOW,DOOR,A/R POLYCARBONATE
14	8102-040	7	CAPSCREW,HH,1/4-20 UNCx.75,GD8
15	8050-222	3	WASHER,WROUGHT,1/4,STD,ZN
16	8040-366	3	NUT,HEX,NYLOCK,1/4-20 UNC,ZN
17	0304-495	2	STUD,BALL,10MM
18	0304-484	11'	TRIM,CAB RC-30
19	0304-491	1	MNT,SHOCK
20	8102-143	2	CAPSCREW,HH,5/16-18UNC3.5,GD8
21	0402-620	1	ASSY,WLMT,DOOR
22	0304-483	1	HANDLE,CAB
23	0304-485	2	SCREW,MACH,10-24x3/4,STAINLESS
24	8040-246	6	NUT,HEX,NYLOCK,10-24 UNC,ZN
25	0304-482	1	LOCK,CAB
26	0304-381	6	SCREW,MACH,PH PAN HD 10-24X0.5
27	0301-609	2	NUT,LOCK,STAR WASHER,#10-24NC
28	0304-512	1	MNT,SENSOR,LOADER
29	0304-574	1	HARNESS,DOOR
30	0304-488	1	PLATE,STRIKER
31	0304-573	1	HARNESS,WIPER,B
32	0304-489	1	SPRING,GAS
33	0310-587	2	CLAMP,WIRE,3/8,ADHESIVE
34	0304-391	4	NUT,HEX,NYLOK1/4-20,INSERT/CAP
35	0304-646	1	PLATE,TOP

REF. NO.	PART NUMBER	QTY	DESCRIPTION
36	0301-033	8	WASHER,FENDER,1/4 x 1 1/4,STL,
37	0201-251	1	ROPS,FOPS,RC100
38	0201-748	2	ASSY,TAG,EMERGENCY EXIT
39	0310-495	7'	STRIP,LOCK
40	1059-015	7'	SEAL,WINDOW
41	0201-252	1	WINDOW,REAR
42	0402-758	1	GLASS,SLIDER,SINGLE,LH
43	0402-761	1	GLASS,UPPER,LH
44	0402-763	1	GLASS,LOWER,LH
45	0402-826	24	KIT,RETAINER,WINDOW

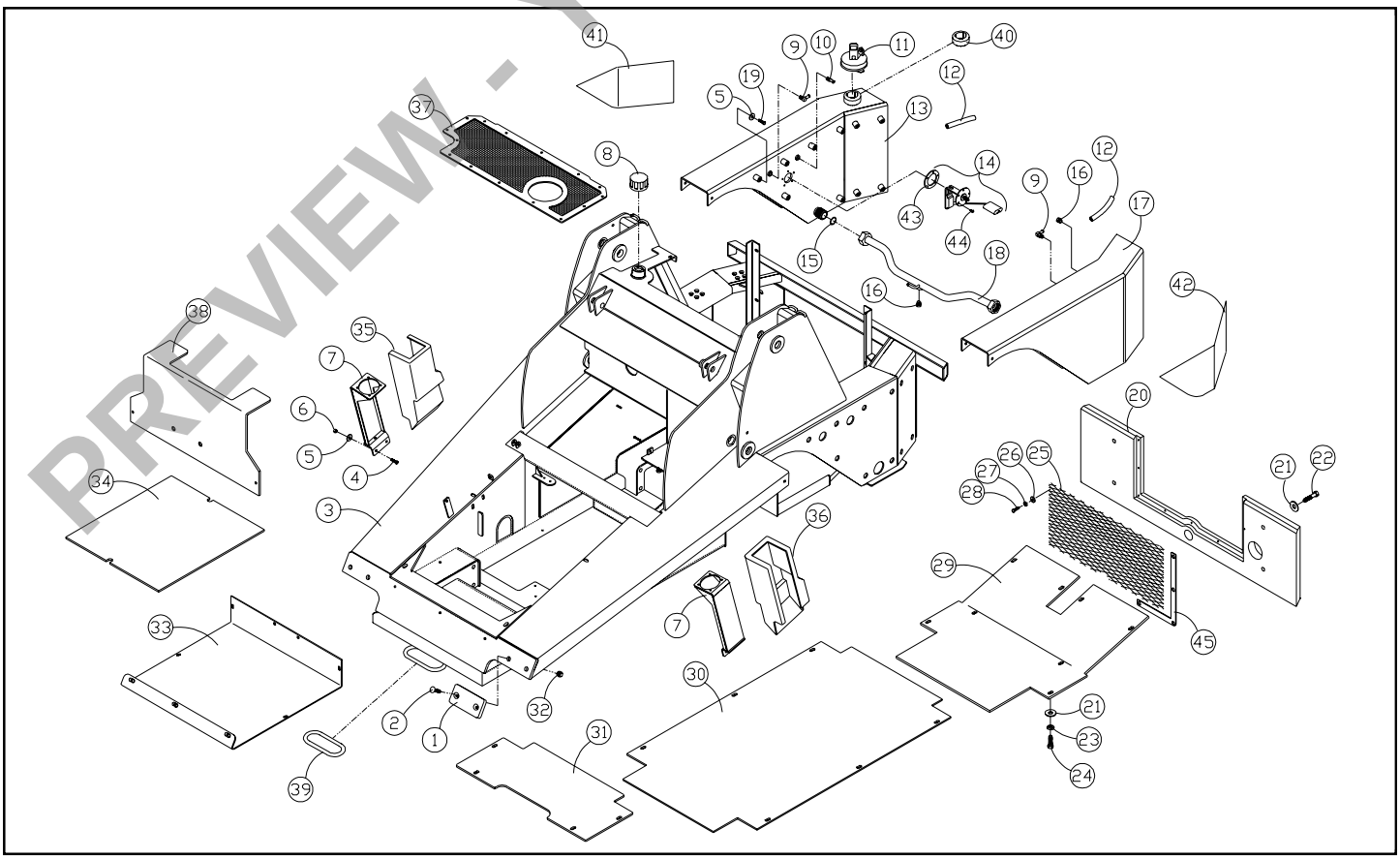


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CHASSIS ASSEMBLY

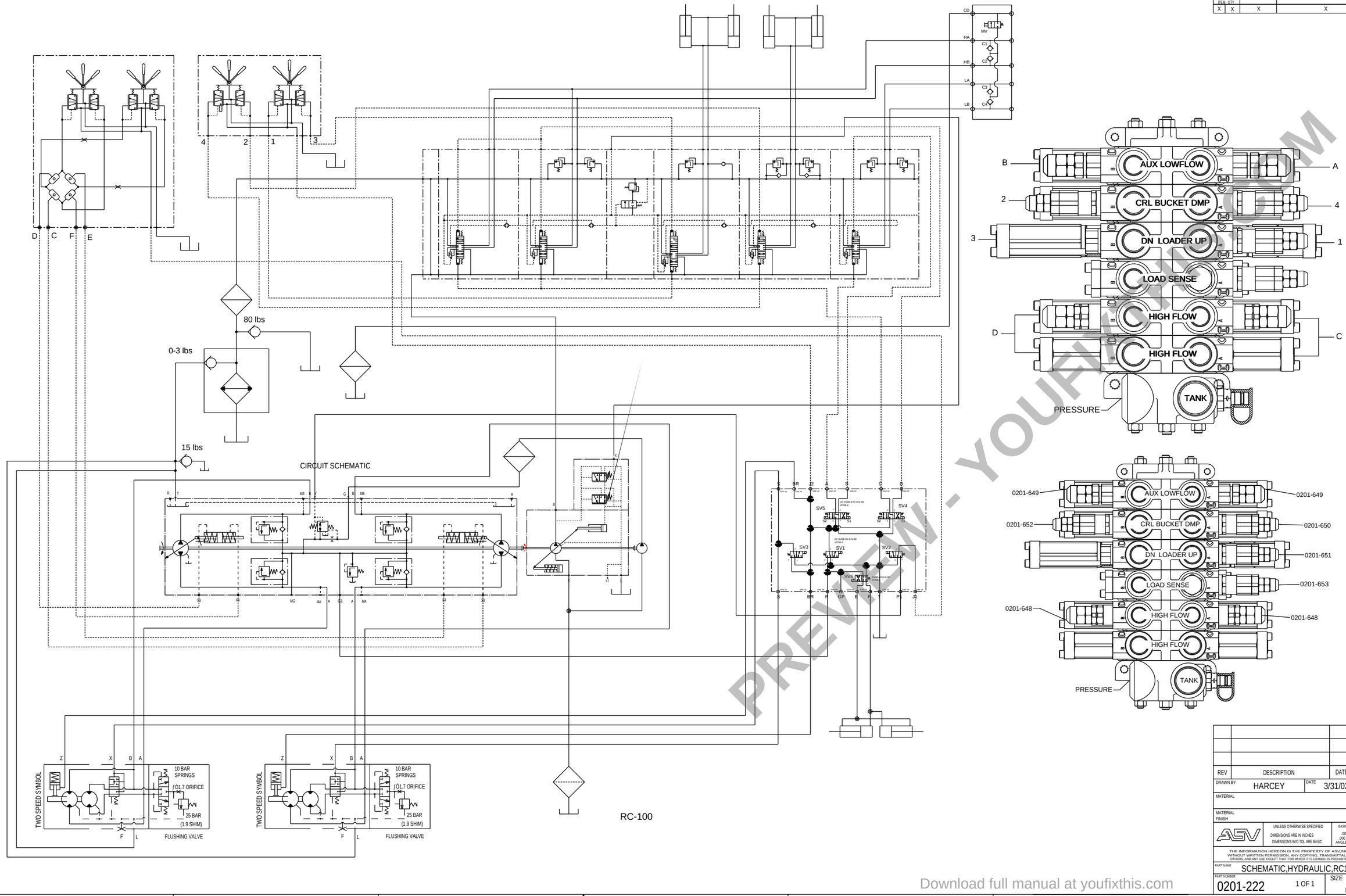
REF. NO.	PART NUMBER	QTY	DESCRIPTION
1	0201-066	2	PLATE,BOLT
2	0201-483	4	BOLT,PLOW,1/2-13x2.00"
3	0201-167	1	WLMT,CHASSIS
4	8102-222	6	CAPSCREW,HH,3/8-16 UNCx1.0,GD8
5	8050-272	26	WASHER,WROUGHT,3/8 x.744,ZN
6	8040-486	6	NUT,HEX,NYLOCK,3/8-16 UNC,ZN
7	0201-163	2	WLMT,MNT,JOYSTICK
8	0201-667	1	CAP,RESERVOIR,5PSI
9	0201-493	2	ADAPTER,4601-08-06-NWO
10	0201-494	1	ADAPTER,4604-06-06-0
11	0310-516	1	CAP,FILLER,HOSE
12	0201-583	2	HOSE,FUEL,.5,7"
13	0201-144	1	WLMT,TANK,FUEL,RH
14	0201-444	1	ASSY,FUEL SENDING UNIT,RC100
15	0201-479	2	O-RING, 24 ORFF
16	0301-396	2	PLUG,O-RING,#6,HH
17	0201-143	1	WLMT,TANK,FUEL,LH
18	0201-478	1	TUBE,CROSSOVER,FUEL
19	8102-224	20	CAPSCREW,HH,3/8-16UNCx1.25,GD8
20	0201-145	1	WEIGHT,REAR
21	8050-347	20	WASHER,WROUGHT,1/2,STD,ZN
22	8102-407	4	CAPSCREW,HH,1/2-13UNCx2.0,GD8,
23	8051-332	20	WASHER,SPRING LOCK,1/2,ZN
24	8102-402	16	CAPSCREW,HH 1/2-13 UNCx1.0 GD8
25	0201-417	1	SCREEN,REAR
26	8050-222	9	WASHER,WROUGHT,1/4,STD,ZN
27	8051-212	9	WASHER,SPRING LOCK,1/4,ZN
28	8102-040	9	CAPSCREW,HH,1/4-20 UNCx.75,GD8
29	0201-230	1	PLATE,SKID,BACK
30	0201-229	1	PLATE,SKID,MIDDLE
31	0201-228	1	PLATE,SKID,FRONT
32	8040-606	4	NUT,HEX,NYLOCK,1/2-13 UNC,ZN
33	0201-219	1	PAN,FLOOR
34	0201-523	1	MAT,FLOOR
35	0201-559	1	COVER,PEDESTAL,RH
36	0201-560	1	COVER,PEDESTAL,LH
37	0201-517	1	WLMT,SCREEN,TOP,REAR
38	0201-464	1	COVER,FLOOR
39	0201-175	1	RING,TIE DOWN
40	0200-010	1	NECK,FILLER
41	0201-437	1	DECAL,BLACK,RH
42	0201-438	1	DECAL,BLACK,LH
43	0300-733	1	GASKET,SENDING UNIT
44	0309-528	5	SCREW,MACH,#10x3/4,PH,PN,SS
45	0201-733	2	PLATE,SCREEN



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ITEM	QTY	PART NO.	NAME
X	X	X	X



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REV	DESCRIPTION	DATE	ECN

DRAWN BY	HARCEY
DATE	3/31/03
MATERIAL	
MATERIAL FINISH	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
DIMENSIONS W/O TOL ARE BASIC

BASIC TOLERANCE
.00 = .03
.000 = .010
ANGLE = +/-0.58

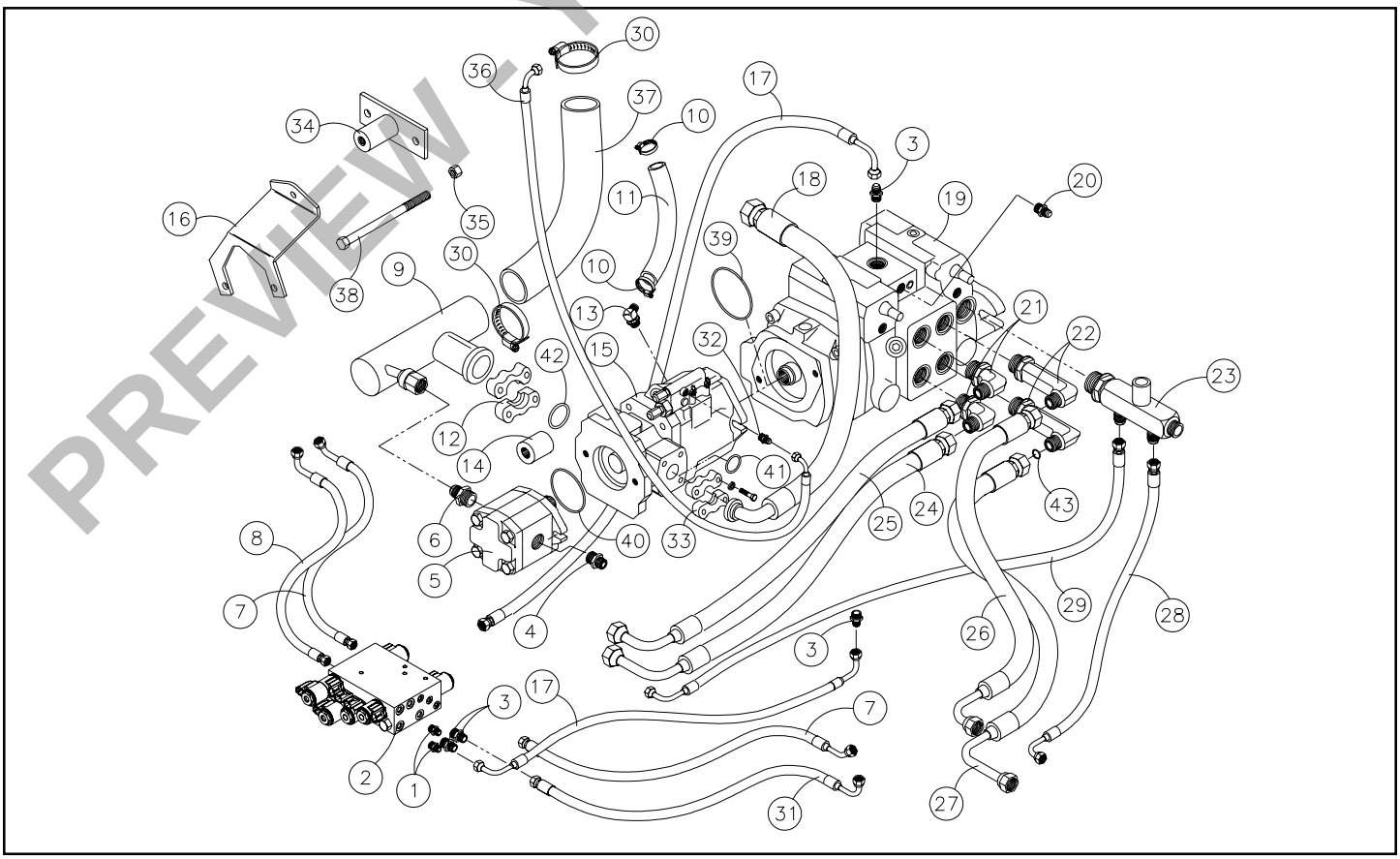
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PART NAME	SCHEMATIC,HYDRAULIC,RC100	
PART NUMBER	0201-222 1 OF 1	SIZE SCALE NTS

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TRANSMISSION & DRIVE ASSEMBLY

REF. NO.	PART NUMBER	QTY	DESCRIPTION
1	0201-311	11	ADAPTER,FS6400-04-04-0
2	0201-136	1	MANIFOLD,PILOT GENERATION
3	0310-329	9	ADAPTER,6MFFOR-6MB
4	0310-318	1	ADAPTER,10MFFOR-10MB
5	0201-256	1	PUMP,GEAR,1.58 CID
6	0310-068	1	ADAPTER,12MB-12MFFOR
7	0201-369	2	HOSE,4G1,48.50"
8	0201-366	1	HOSE,4G1,48"
9	0201-218	1	MANIFOLD,INTAKE
10	0300-686	2	CLAMP,HOSE,2.0,#32
11	0201-485	1	HOSE,DUROFLEX,1.0IDx19.25
12	0201-337	1	ADAPTER,SFK-32
13	0201-313	1	ADAPTER,4601-16-10NW0
14	0201-139	1	COUPLING,PUMP,C SHAFT
15	0201-254	1	PUMP,AUX,LS
16	0201-240	1	SUPPORT,PUMP,LOWER
17	0201-359	2	HOSE,6G1,38"
18	0201-358	1	HOSE,16G5K,24"
19	0200-093	1	PUMP,TANDEM,TRANSMISSION
20	0310-314	1	ADAPTER,10MFFOR-8MB
21	0310-321	2	ADAPTER,12MFFOR-12MB90
22	0201-316	2	ADAPTER,FS6801-L-12-12-NW0
23	0201-155	1	TEE,W/RELIEF,15 PSI
24	0201-367	1	HOSE,12G6K,70"
25	0201-381	1	HOSE,12G6K,68"
26	0201-372	1	HOSE,12G6K,57"
27	0201-370	1	HOSE,12G6K,60"
28	0201-371	1	HOSE,8G1,69"
29	0201-368	1	HOSE,8G1,81"
30	0303-175	2	HOSE,CLAMP,2.75,HI-TORQUE
31	0201-366	1	HOSE,4G1,48"
32	0314-014	1	ADAPTER,6MFFOR-4MB
33	0201-410	1	FLANGE,SPLIT,CODE 61
34	0201-241	1	WLMT,BRKT,SUPPORT,PUMP
35	8040-606	1	NUT,HEX,NYLOCK,1/2-13 UNC,ZN
36	0201-364	1	HOSE,6G6K,64.50"
37	0201-484	1	HOSE,MEGA-VAC,2.5IDx24.25
38	0201-543	1	CAPSCREW,HH,1/2-13x10
39	0201-777	1	O-RING,101.27MM-2.62MM
40	0201-776	1	O-RING,85MM-3.0MM
41	0310-289	1	O-RING,16 ORFF
42	0201-778	1	O-RING,#32
43	0310-288	4	O-RING,12 ORFFDD



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