



Service Jacks

Operating Instructions & Parts Manual

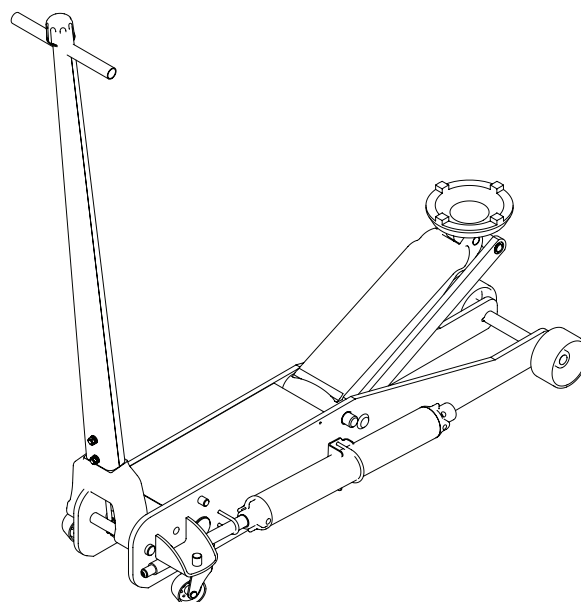
Model Number	Capacity
HW93657	4 Ton
HW93667 (Air/Manual)	4 Ton
HW93660	10 Ton
HW93662 (Air/Manual)	10 Ton



**Made in the
U.S.A.**



Model No. HW93657 & HW93660



Model No. HW93667 & HW93662



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

SFA Companies
10939 N. Pomona Ave. Kansas City, MO 64153
customerservices@heinwerner-automotive.com

Read this manual and follow all the Safety Rules and Operating Instructions before using this product.

HW93657-M0_062012

SAFETY AND GENERAL INFORMATION

Save these instructions. For your safety *read, understand, and follow* the information provided with and on this jack. The owner and operator of this equipment shall have an understanding of this jack and safe operating procedures before attempting to use. The owner and operator shall be aware that use and repair of this product may require special skills and knowledge. Instructions and safety information shall be conveyed in the operator's native language before use of this jack is authorized. If any doubt exists as to the safe and proper use of this jack, remove from service immediately.

Inspect before each use. Do not use if broken, bent, cracked, or damaged parts (including labels) are noted. Any jack that appears damaged in any way, operates abnormally or is missing parts, shall be removed from service immediately and the manufacturer notified. If you suspect that the jack was subjected to a shock load (a load dropped suddenly, unexpectedly upon it), immediately discontinue use until the jack has been checked by a factory authorized service center (contact distributor or manufacturer for list of Authorized Service Centers). It is recommended that an annual inspection be done by qualified personnel. Replace worn or damaged parts with Hein-Werner Authorized Replacement Parts only. Labels and owner's manuals are available from manufacturer.

PRODUCT DESCRIPTION

Hein-Werner Hydraulic Service Jacks are designed to lift, not support, rated capacity loads consisting of one end of a vehicle. Immediately after lifting, the load must be supported by a pair of appropriately rated jack stands.

⚠ WARNING: *NEVER use a hydraulic jack as a stand-alone device. After lifting, immediately support the lifted vehicle with a pair of appropriately rated jack stands. NEVER place any portion of your body beneath the vehicle when lifting OR lowering.*

SPECIFICATIONS

Model	Capacity	Min. Height	Max. Height	Chassis Length	Wheel to Wheel Width	Min. Air Pressure for Rated Load	Gross Weight
HW93657	4 Ton	5"	25-3/4"	49"	15"	N/A	219 lb.
HW93667						140 psi	233 lb.
HW93660	10 Ton	6-3/4"	25-1/2"	53-1/2"	20 1/2"	N/A	420 lb.
HW93662						140 psi	435 lb.

WARNING

- Study, understand, and follow all instructions before operating this device.
- Do not exceed rated capacity.
- Use only on hard, level surface.
- Lifting device only. Immediately after lifting, support the vehicle with appropriate means.
- Do not move or dolly the vehicle while on the jack.
- Lift only on areas of the vehicle as specified by the vehicle manufacturer.
- No alterations shall be made to this product.
- Failure to heed these markings may result in personal injury and/or property damage.

WARNING



To avoid crushing and related injuries:

- Never work on, under or around a load supported only by hydraulic jack.
- Always use adequately rated jack stands.
- Chock each unlifted tire in both directions.
- Do not use this device to lift, level, lower, support nor move a house, mobile home, travel trailer, camper or any building structure.
- Be alert and sober when using this product. Do not operate under the influence of drugs or alcohol.

ASSEMBLY

Equipment required:

1. Needle nose locking pliers
2. Snap-ring pliers (Models HW93657 & HW93667 only)
3. 15 /16" wrench (Models HW93660 & HW93662 only)
4. Hammer
5. All necessary hardware is assembled loosely onto the jack.

Instructions

1. *Models HW93657 and HW93667:* (ref. figure 1)
Remove the retaining rings and the handle pin from the jack base that connects through the handle fork.
Models HW93660 and HW93662: (ref. figure 2)
Remove the 5/8"-18 bolts and the handle pin from the jack base that connects through the handle fork.
2. Remove the #6-32 screw and nut from the universal receptacle.
3. Pull the universal assembly out a minimum of 1-3/4".
4. Clamp the needle nose locking pliers onto the rod so that the universal assembly will not retract back into the handle.
5. Slide the universal assembly into the handle socket so that it extends out the other side.
6. Insert the pivot pin that was removed in step 1 back through the handle and handle socket (may have to gently tap the pin with a hammer).
7. *Models HW93660 & HW93662:* align the pivot pin with the holes on the side plates that the pivot pin was removed from and tighten the 5/8"-18 bolts into the pivot pin until secure.
8. Connect the universal assembly to the universal receptacle rod using the #6-32 screw and nut (finger tighten only).
9. Remove the needle nose locking pliers.
10. Replace plug on hydraulic unit with vent screw from owners manual bag.
11. Jack is now operational and ready for use.

PREPARATION (ref. Figures 3 & 4)

Before Use

1. Verify that the product and application are compatible, if in doubt contact Hein-Werner Technical Service.
2. Before use, read the operator's manual completely and familiarize yourself thoroughly with the product, its components and recognize the potential hazards associated with its use.
3. To familiarize yourself with the basic operation of these jacks, locate and turn the release valve knob:
 - a. *Clockwise* until firm resistance is felt to further turning. This is the '**CLOSED**' release valve position used to raise the load.
 - b. *Counter-clockwise*, but no more than 1/2 full turn from the closed position. This is the '**OPEN**' release valve position used to lower the load. The further the release valve knob is turned counter-clockwise, the faster the load will descend.
4. Reinstall the air vent screw.
5. Check that the jack rolls freely. Raise and lower the unloaded saddle throughout the lift range to ensure the pump and release valve operate smoothly.
6. Replace worn or damaged parts and assemblies with Hein-Werner Replacement Parts only. Lubricate as instructed in Maintenance Section.

Bleeding/Venting Trapped Air - With saddle fully lowered, remove cover plate then remove air vent screw. Pump the operating handle through 6 to 8 full strokes. Ensure the oil level is within ~3/16" from the inner cylinder as viewed from the air vent screw hole.



Figure 1- Assembly Illustration for HW93657 & HW93667



Figure 2- Assembly Illustration for HW93660 & HW93662

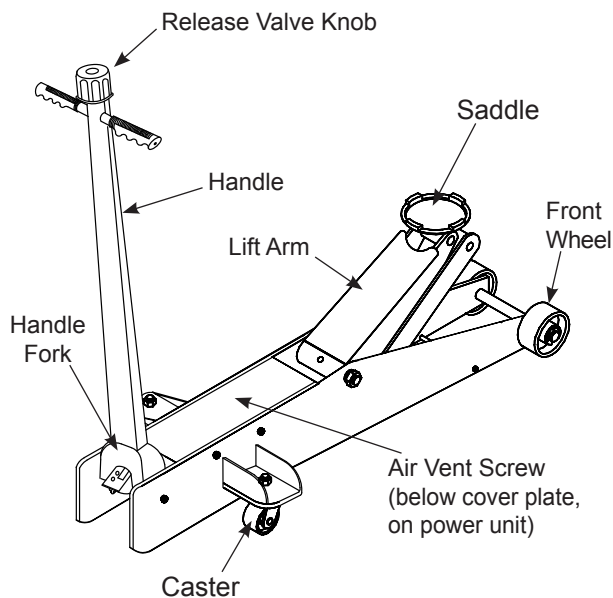


Figure 3 - Model HW93657 & HW93660 Nomenclature

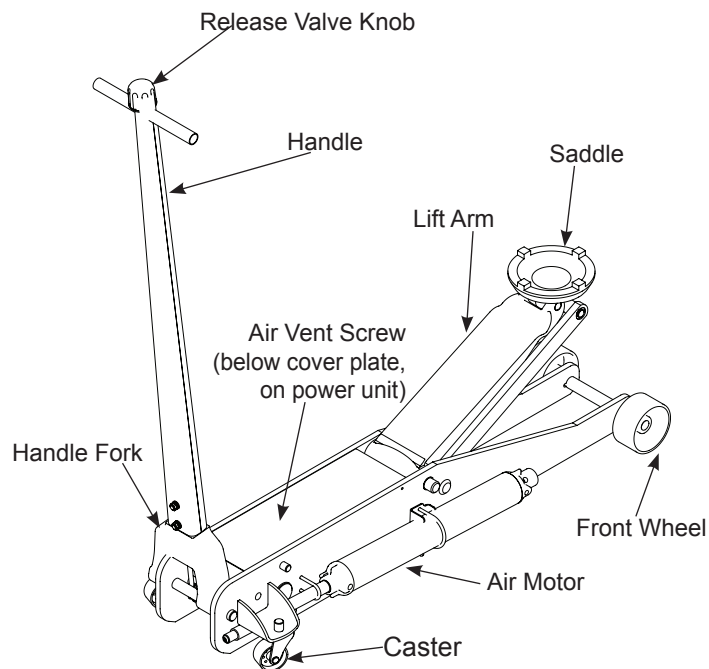


Figure 4 - Model HW93667 & HW93662 Nomenclature

OPERATION

Lifting

WARNING: Only attachments and/or adapters supplied by the manufacturer shall be used.

1. Follow the vehicle manufacturer's recommended guidelines for lifting. Engage the emergency brake and chock each unlifted wheel in both directions to prevent inadvertent vehicle movement.
2. Locate and close the release valve by turning the release valve knob clockwise until firm resistance is felt.
3. Refer to the vehicle manufacturer owner's manual to locate approved lifting points on the vehicle. Center jack saddle under lift point.
4. Verify lift point then use handle pump to contact lift point. To lift, pump handle or squeeze air control valve (model HW93667 & HW93662) until load reaches desired height.
5. Transfer the load to appropriately rated jack stands.

Lowering

WARNING: Clear all tools and personnel before lowering load. Open release valve slowly. The further you turn the release valve knob counter-clockwise, the faster the load will descend. Maintain control of the load at all times.

1. Raise load high enough to clear the jack stands.
2. Remove jack stands.
3. Slowly turn the release valve knob counter-clockwise, but no more than 1/2 full turn. *If the load fails to lower:*
 - a. Use another jack to raise the vehicle high enough to reinstall jack stands.
 - b. Remove the malfunctioning jack and then the jack stands.
 - c. Using the functioning jack, lower the load by turning the release valve knob counter-clockwise, but no more than 1/2 full turn.
4. After removing jack from under the load, push saddle down to reduce ram exposure to rust and contamination.

MAINTENANCE

NOTICE: Use only a good grade hydraulic jack oil. Avoid mixing different types of fluid and never use brake fluid, turbine oil, transmission fluid, motor oil or glycerin. Improper fluid can cause failure of the jack and the potential for sudden and immediate loss of load. Hein-Werner hydraulic jack oil HW93291 or equivalent is recommended.

Adding oil

1. Lower saddle fully.
2. Set jack in its upright, level position.
3. Locate and remove air vent screw.
4. Follow the BLEEDING/VENTING Trapped Air procedure on page 3.
5. Reinstall the air vent screw.

Changing oil

For best performance and longest life, completely replace hydraulic fluid at least once a year.

1. Lower saddle fully.
2. Remove the air vent screw.
3. Lay the jack on its side and drain the fluid into a suitable container.

NOTICE: Dispose of hydraulic fluid in accordance with local environmental regulations.

4. Fill reservoir with oil and follow the BLEEDING/VENTING Trapped Air procedure on page 3.
5. Reinstall the air vent screw.

Lubrication

A periodic coating of light lubricating oil to pivot points, axles and hinges will help prevent rust and keep wheels, castors and pump assemblies moving freely.

Cleaning

Periodically check pump piston and ram for signs of rust or corrosion. Clean as needed and wipe with an oily cloth.

NOTICE: Never use sandpaper or abrasive material on ram or pump piston.

Storage

Lower the saddle to its lowest position when not in use.

TROUBLESHOOTING

Symptom	Possible Causes	Corrective Action
Jack will not lift load	• Release knob not tightly closed • Overload condition	• Ensure release knob tightly closed • Remedy overload condition
Jack bleeds off after lift	• Hydraulic unit malfunction	• Discontinue use, contact Hein-Werner Technical Service
Jack will not lower after unloading	• Reservoir overfilled • Linkages binding • Fluid level low	• Drain fluid to proper level • Clean and lubricate moving parts • Ensure proper fluid level
Will not lift to full extension	• Fluid level low	• Ensure proper fluid level

REPLACEMENT PARTS (ref. pgs. 6 thru 19)

Not all components of this jack are replacement items, but are illustrated as a convenient reference for location and position in the assembly sequence. When ordering parts, give model number, part number and parts description. Call or write for current pricing: Hein-Werner Customer Support, 10939 N. Pomona Ave. Kansas City, MO 64153. Phone: (816)891-6390; E-mail: customerservices@heinwerner-automotive.com

Model HW93657 Replacement Parts Illustration Part I (ref. parts list on pg. 8)

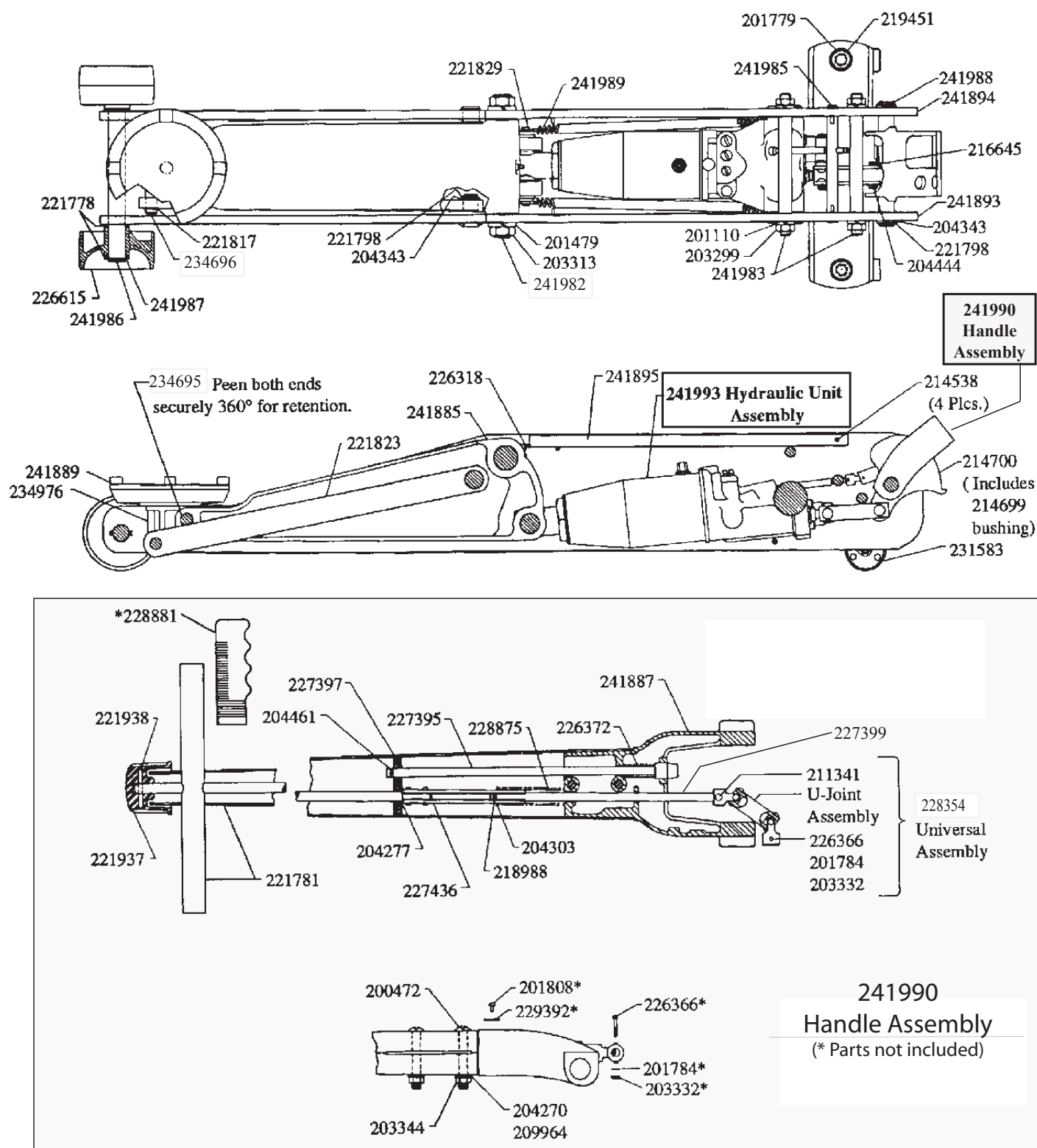


Figure 5 - Parts Illustration for Model HW93657

Model HW93657 Replacement Parts Illustration Part II - Hydraulic Unit (ref. parts list on pg. 8)

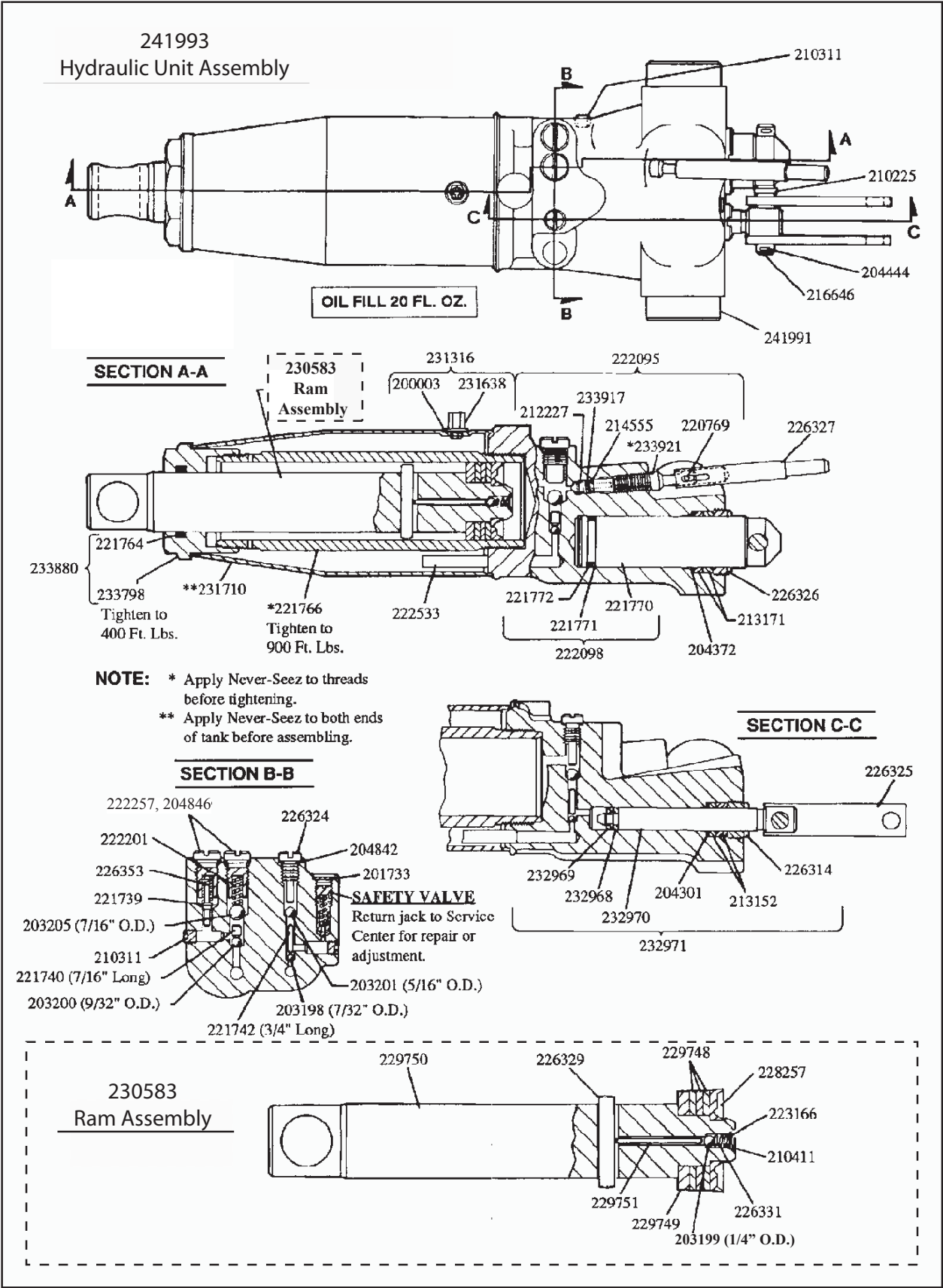


Figure 6 - Parts Illustration for Model HW93657 (Hydraulic Unit)

Model HW93657 Replacement Parts List (ref. to illustrations on pg. 6 & 7)

<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>
200003*	Gasket	1	221740	Ball Stop Plug (7/16")	1	229751	Pin	1
200472	Screw	2	221742	Ball Stop Plug (3/4")	1	230583	Ram Assy	1
201110	Lockwasher	4	221764*	Ram Quad Ring	1	231316	Vent Valve Assy	1
201479	Lockwasher	2	221766	Cylinder	1	231583	Rear Caster	2
201733	Plug	1	221770	Low Pressure Pump	1	231638	Filler Screw	1
			221771*	Washer	1	231710	Oil Tank	1
201779	Lockwasher	2						
201784	Lockwasher	1	221772*	Quad ring	1	232968*	Back-up Washer	1
N/A	Rivet	2	221778	Washer	4	232969*	U-cup	1
203198*	Ball (7/32")	1	221781	Handle and Cross Bar	1	232970	Pressure Pump	1
203199*	Ball (1/4")	1	221798	Retainer Ring	4	232971	Pressure Pump Kit	1
			221817	Retainer Ring	2	233798	Tank Nut	1
203200*	Ball (9/32")	1						
203201*	Ball (5/16")	1	N/A	Parallel Link	2	N/A	Tank Nut/Quad Ring	1
203205*	Ball (7/16")	1	221829	Pin	1	233917*	Plastic Spring	1
203299	Jam Nut	4	221937	Turning Knob	1	233921	Release Stem	1
203313	Jam Nut	2	221938	Roll Pin	1	234695	Bellcrank Pin	1
			222095	Release Stem Kit	1	234696	Parallel Link Pin	1
203332	Nut	1						
203344	Jam Nut	2	222098	Speed Pump Assy	1	234976	Cap Housing	1
204270	Washer	2	222201*	Spring	1	N/A	Bellcrank	1
204277	Washer	1	222257	Plug Poppet Valve	2	241887	Handle Socket	1
204301	Washer	1	222533*	Screen	2	241889	Lift cap	1
			223166*	Ram Screen	1	N/A	Sideplate Assy	1
204303	Washer	1						
204343	Washer	4	226314	Gland Nut	1	N/A	Sideplate Assy	1
204372	Washer	1	226318	Grease Fitting	1	241895	Hydraulic Unit Cover	1
204444	Cotter Pin	3	226324	Pressure Plug	1	241907	Repair Kit (Hyd. Unit)	-
204461	Cotter Pin	1	226325	Pump Link	2	241982	Fulcrum Pin	1
			226326	Nut	1	241983	Sideplate Tie Rod	2
204842*	Copper Gasket	1						
204846	Gasket Ring	2	226327	Slotted Tube	1	241985	Support Rod	1
209964	Lockwasher	2	226329	Pin	1	241986	Front Axle	1
210225	Spacer	1	226331*	Spring	1	241987	Retainer Ring	2
210311	Pipe Plug	3	226353*	Spring	1	241988	Handle Pivot Pin	1
210411*	Washer	1	226366	Hex Head Bolt	1	241989	Extension Spring	2
211341	Rivet	1	226372	Spring	1	241990	Handle Assy	1
212227	Release Valve	1	226615	Front Wheel	2	N/A	Hydraulic Unit Casting	1
213152*	Packing Ring	2	227395	Plunger Assy	1	241993	Hydraulic Unit Assy	1
213171*	Packing Ring	2	227397	Release Link	1			
214538	Groove Pin	4	227399	Extension Rod	1	HW93657-K0 Label Kit (not shown)		
						HW93657-M0 Manual		
214555*	O-ring	1	227436	Turning Rod Assy	1			
214699	Bushing	1	228257*	U-cup	1	(*) Items included in Repair Kit		
214700	Handle Segment Assy	1	228354	Universal Assy	1	241907		
216645	Pin	1	228875	Spring	1			
216646	Pump Pin	1	228881	Grip	2			
218988	Roll Pin	1	N/A	Serial Plate	1			
219451	Hex Nut	2	229748*	Heel Plate	3			
220769	Cross Pin	1	229749	Washer	1			
221739*	Poppet	1	229750	Ram	1			

Model HW93660 Replacement Parts Illustration Part I (ref. parts list on pg. 11)

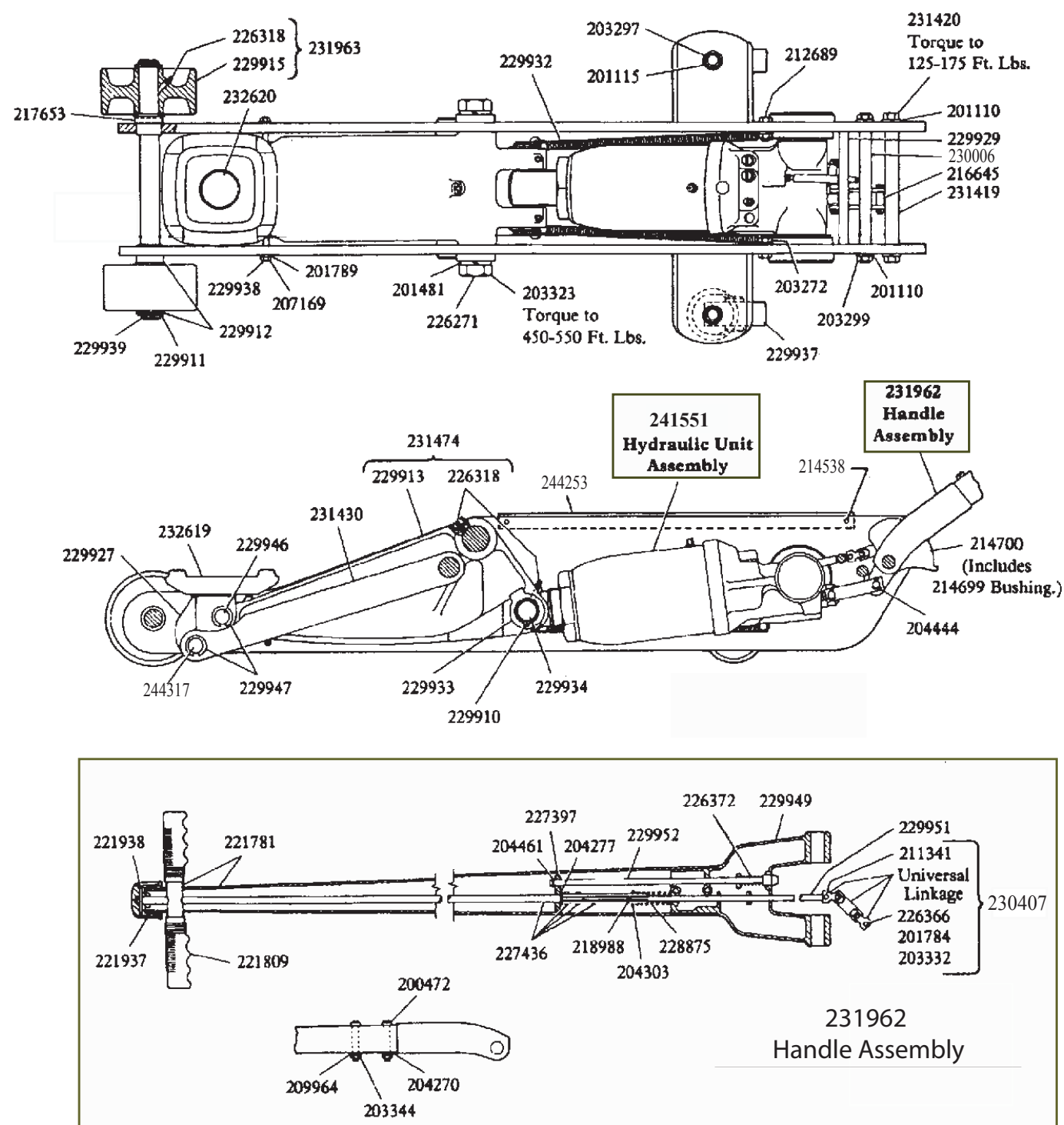


Figure 7 - Parts Illustration for Model HW93660

Model HW93660 Replacement Parts Illustration Part II - Hydraulic Unit (ref.parts list on pg. 11)



Figure 8 - Parts Illustration for Model HW93660 (Hydraulic Unit)

Model HW93660 Replacement Parts List (ref. illustrations on pg. 9 & 10)

<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>
200003	Gasket	1	220769	Cross Pin	1	229927	Cap Housing	1
200472	Bolt	2	221739	Poppet	1	229929	Bearing	1
201110	Lockwasher	4	221742	Ball Stop Plug	1	229932	Spring	2
201115	Lockwasher	2	221770	Speed Pump	1	229933	Plate	2
201481	Lockwasher	2	221771*	Back-up Washer	1	229934	Pin	1
201733	Expansion Plug	1	221772	Quad Ring	1	229937	Caster	2
201784	Lockwasher	1	221781	Handle & Cross Bar	1	229938	Pin	1
201789	Lockwasher	2	221809	Handle Grip	2	229939	Front Axle	1
203198*	Ball	1	221937	Release Knob	1	229946	Pin	1
203199*	Ball	1	221938	Roll Pin	1	229947	Retaining Ring	4
203200*	Ball	1	222095	Release Stem Assy.	1	N/A	Handle Socket	1
203201*	Ball	1	222098	Speed Pump Assy.	1	229951	Extension Rod	1
203207*	Ball	1	222201*	Spring	1	229952	Plunger Assy	1
203272	Nut	2	222257	Plug	1	229956	Heel Plate	1
203297	Nut	2	222533*	Screen	2	230006	Bumper Pin	1
203299	Nut	2	223166*	Screen	1	230407	Universal Assy	1
203323	Nut	2	224253	Cover	1	231316	Filler Plug/Gasket Assy	1
203332	Nut	1	N/A	Fulcrum Pin	1	231419	Fulcrum Pin	1
203344	Nut	2	226314	Gland Nut	1	231420	Bolt	2
204270	Washer	2	226318	Grease Fitting	5	N/A	Parallel Link	2
204277	Washer	1	226325	Pump Link	2	N/A	Bell Crank & Fittings	1
204301	Washer	1	226326	Gland Nut	1	231638	Filler Plug & Vent Valve	1
204303	Washer	1	226331	Spring	1	231717	Base	1
204372	Washer	1	226353*	Spring	1	231718	Oil Tank	1
204444	Cotter Pin	4	226366	Bolt	1	231945	Ram Assy	1
204461	Cotter Pin	1	226372	Plunger Spring	1	231962	Handle Assy	1
204842*	Gasket	1	227397	Link	1	231963	Front Wheel Assy	2
204846	Gasket Ring	2	227436	Turning Rod Assy.	1	232619	Lifting Cap	1
207169	Nut	2	228875	Spring	1	232620	Swivel Pin	1
209964	Lockwasher	2	229887*	O-ring	1	232968*	Back-up Washer	1
210225	Spacer	1	229888*	O-ring	1	232969*	U-cup Packing	1
210311	Pipe Plug	3	229889*	O-ring	1	232970	Pressure Pump	1
210411*	Washer	1	N/A	Ram & Cylinder Assy.	1	232971	Pressure Pump &	1
211341	Rivet	1	229898	Cylinder	1		Gland Packing Assy.	
212227	Release Valve	1	229899*	U-cup Packing	1	233917	Plastic Spring	1
212689	Bolt	2	229900*	Back-up Washer	1	233921	Release Stem	1
213152*	Packing Ring	2	229902	Cross Pin	1	240616	Repair Kit (Hyd. Unit)	-
213171*	Packing Ring	2	229903	Pin	1	241482	Tank Nut	1
214538	Groove Pin	4	229904	Plug	1	241483*	Seal	1
214555*	O-ring	1	229905	Plug	1	241551	Hydraulic Unit Assy	1
214699	Bushing	1	229908	Spacer	1	244317	Pin	1
214700	Handle Segment & Bushing	1	229909	Slotted Tube	1	245119	Ram	1
216645	Pin	1	229910	Retaining Ring	2			
216646	Pin	1	229911	Retaining Ring	2	HW93660-K0	Label Kit (not shown)	
217653	Roll Pin	2	229912	Washer	4	HW93657-M0	Manual	
218988	Roll Pin	1	N/A	Bell Crank	1			
218991	Roll Pin	1	231963	Front Wheel	2	(*)	Items included in Repair Kit	
						240616		

Model HW93662 Replacement Parts Illustration Part I (ref. parts list on pg. 14)



Figure 9 - Parts Illustration for Model HW93662

Model HW93662 Replacement Parts Illustration Part II - Hyd Unit (ref. parts list on pg. 14)

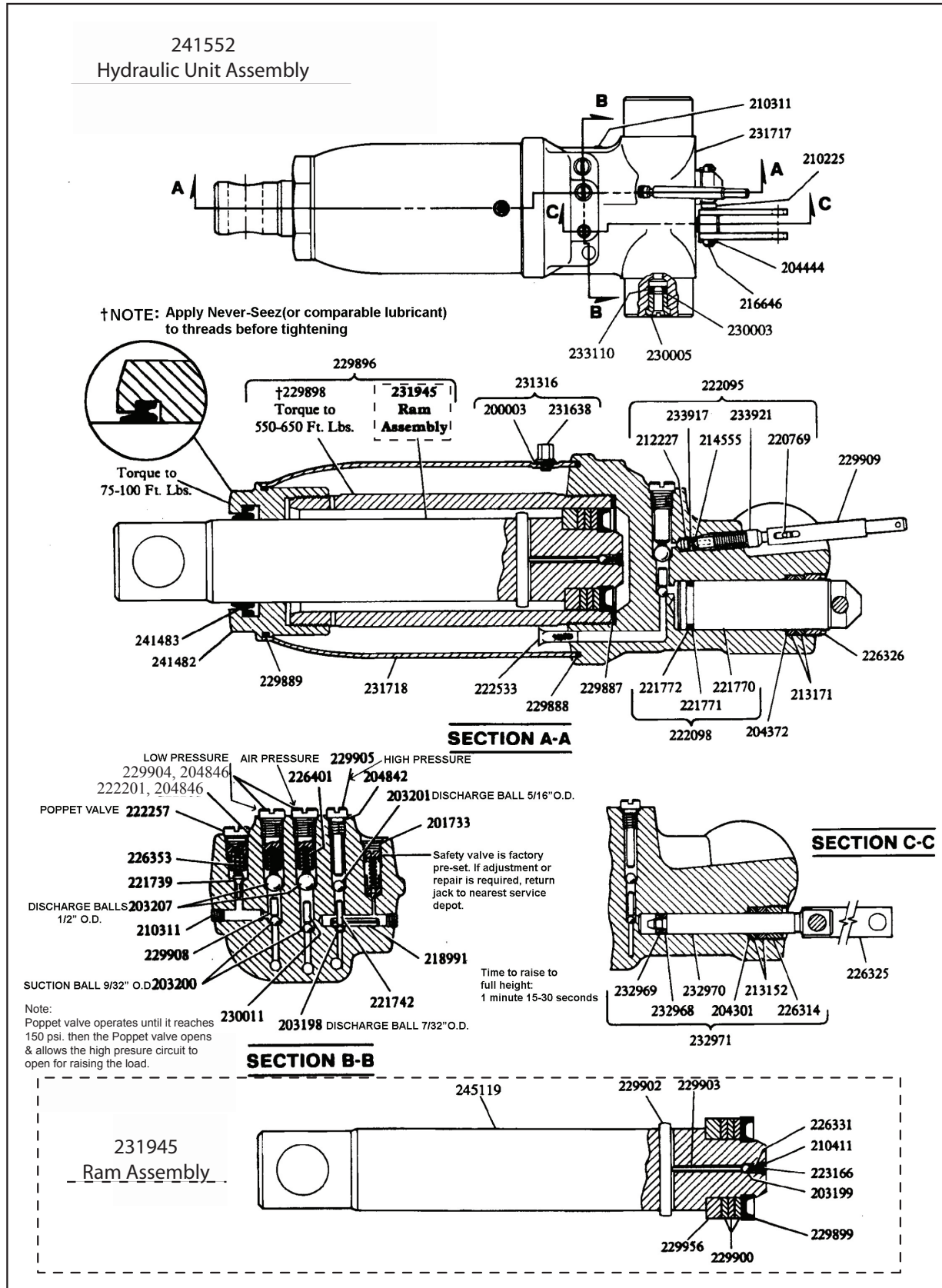
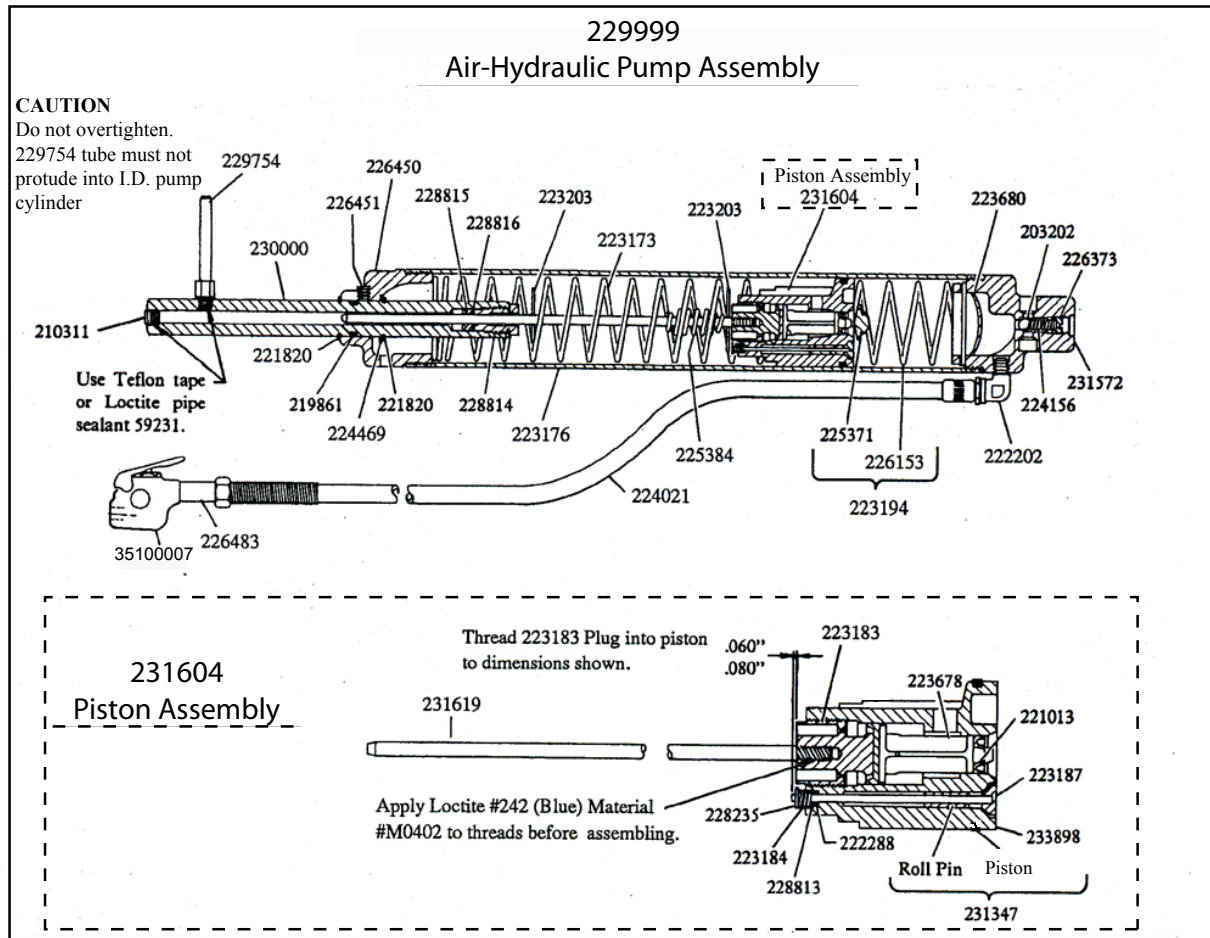


Figure 10 - Parts Illustration for Model HW93662 (Hydraulic Unit)

Model HW93662 Replacement Parts Illustration Part III - Air Hyd. Pump



Model HW93662 Replacement Parts List (ref. illustrations on pgs. 12, 13 & 14)

Part#	Description	Qty	Part#	Description	Qty	Part#	Description	Qty
200003	Gasket	1	204270	Washer	2	214555*	O-ring	1
200472	Bolt	2	204277	Washer	1	214699	Bushing	1
201110	Lockwasher	4	204301	Washer	1	214700	Handle Segment & Bushing	1
201115	Lockwasher	2	204303	Washer	1	216645	Pin	1
201481	Lockwasher	2	204372	Washer	1	216646	Pin	1
201733	Expansion Plug	1	204444	Cotter Pin	4	217653	Roll Pin	2
201784	Lockwasher	1	204461	Cotter Pin	1	218988	Roll Pin	1
201789	Lockwasher	2	204842*	Gasket	1	218991	Roll Pin	1
203198*	Ball (7/32")	1	204846	Gasket Ring	3	219861	O-ring	1
203199*	Ball (1/4")	1	207169	Nut	2	220769	Cross Pin	1
203200*	Ball (9/32")	1	209964	Lockwasher	2	221013#	U-cup Packing	1
203201*	Ball (5/16")	1	210225	Spacer	1	221739	Poppet	1
203202	Ball (11/32")	1	210311	Pipe Plug	3	221742	Ball Stop Plug	1
203207*	Ball	1	210411*	Washer	1	221770	Speed Pump	1
203272	Nut	2	211341	Rivet	1	221771*	Back-up Washer	1
203297	Nut	2	212227	Release Valve	1	221772	Quad Ring	1
203299	Nut	2	212689	Bolt	2	221809	Handle Grip	2
203301	Jam Nut	1	213152*	Packing Ring	2	221820	Retaining Ring	2
203323	Nut	2	213171*	Packing Ring	2	221937	Release Knob	1
203332	Nut	1	214538	Groove Pin	4			
203344	Nut	2						

Model HW93662 Replacement Parts List (cont.)

<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>
221938	Roll Pin	1	228813	Washer	1	230407	Universal Assy.	1
222095	Release Stem Assy.	1	228814#	Gland Nut	1	231316	Filler Plug & Gasket Assy.	1
222098	Speed Pump Assy.	1	228815#	U-cup Packing	1			
222201*	Spring	1						
BJ479096	Elbow	1	228816#	Washer	1	231347	Piston & Roll Pin	1
			228875	Spring	1	231419	Fulcrum Pin	1
222257	Plug	1	229754	Pin	1	231420	Bolt	2
222288#	O-ring	1	229887*	O-ring	1	N/A	Parallel Link	2
222533*	Screen	2	229888*	O-ring	1			
223166*	Screen	1				N/A	Bell Crank/Fittings	1
223172	Hose Clip	1	229889*	O-ring	1	231572	Cylinder Cap	1
			N/A	Ram/Cylinder Assy	1	231604	Piston Assy.	1
223173	Return Spring	1	229898	Cylinder	1	231619	Rod, Pump	1
223176	Cylinder, Air	1	229899*	U-cup Packing	1	231638	Filler plug/Vent Valve	1
223179	Hose Clip	2	229900*	Back-up Washer	1			
223183	Plug	1				231733	Base	1
223184	Spring	1	229902	Cross Pin	1	231718	Oil Tank	1
			229903	Pin	1	231945	Ram Assy.	1
223187#	Valve & Plunger	1	229904	Plug	1	231963	Front Wheel Assy.	2
223194	Spring & Cushion	1	229905	Plug	1	231990	Handle Assy.	1
223203	Trip Washer	2	229908	Spacer	1			
223220	Handle & Cross Bar	1				232619	Lifting Cap	1
223678	Packing & Piston	1	229909	Slotted Tube	1	232620	Swivel Pin	1
			229910	Retaining Ring	2	232968*	Back-up Washer	1
223680	Screen	1	229911	Retaining Ring	2	232969*	U-cup Packing	1
224021	Hose, Air	1	229912	Washer	4	232970	Pressure Pump	1
224081	Screw	2	N/A	Bell Crank	1			
224156	Spring	1				232971	Pressure Pump & Gland Packing Assy.	1
224469	Washer	1	231963	Front Wheel	2	233110	Pump U-cup	1
			229927	Cap Housing	1	233622	Screw	4
225371	Rubber Cushion	1	229929	Bearing	1	233897	Ring, Sealing	1
225384	Trip Spring	1	229932	Spring	2			
225906	Bracket, Speed pak	1	229933	Plate	2	233917	Plastic Spring	1
226153	Spring	1				233921	Release Stem	1
226271	Fulcrum Pin	1	229934	Pin	1	240564	Repair Kit (Air Pump)	-
			229938	Pin	1	240616	Repair Kit (Hyd. Unit)	-
226314	Gland Nut	1	229939	Front Axle	1	241482	Tank Nut	1
226318	Grease Fitting	5	229946	Pin	1			
226325	Pump Link	2	229947	Retaining Ring	4	241483*	Seal	1
226326	Gland Nut	1				241552	Hydraulic Unit Assy.	1
226331	Spring	1	N/A	Handle Socket	1	244253	Cover	1
			229951	Extension Rod	1	244317	Pin	1
226353*	Spring	1	229952	Plunger Assy.	1	245119	Ram	1
226366	Bolt	1	229956	Heel Plate	1			
226372	Plunger Spring	1	229999	Air Hyd. Pump Assy.	1	35100007	Air Valve	1
226373	Adjusting Screw	1				HW93662-K0 Label Kit (not shown)		
226401	Spring	1	230000	Pump Cylinder	1	HW93657-M0 Manual		
			230003	Back-up Washer	1			
226450	End Block	1	230005	Gland Nut	1	(*) Items included in Repair Kit		
226451	Set Screw	2	230006	Bumper Pin	1	240616		
226483	Pipe Nipple	1	230007	U-bolt	1	(#)		
227397	Link	1	230008	Bracket	1	Items included in Repair Kit		
227436	Turning Rod Assy.	1	230010	Caster	2	240564		
227713	Lockwasher	1	230011	Spacer	1			
228235	Cotter Pin	1						

Model HW93667 Replacement Parts Illustration Part I (ref. parts list on pg. 18)

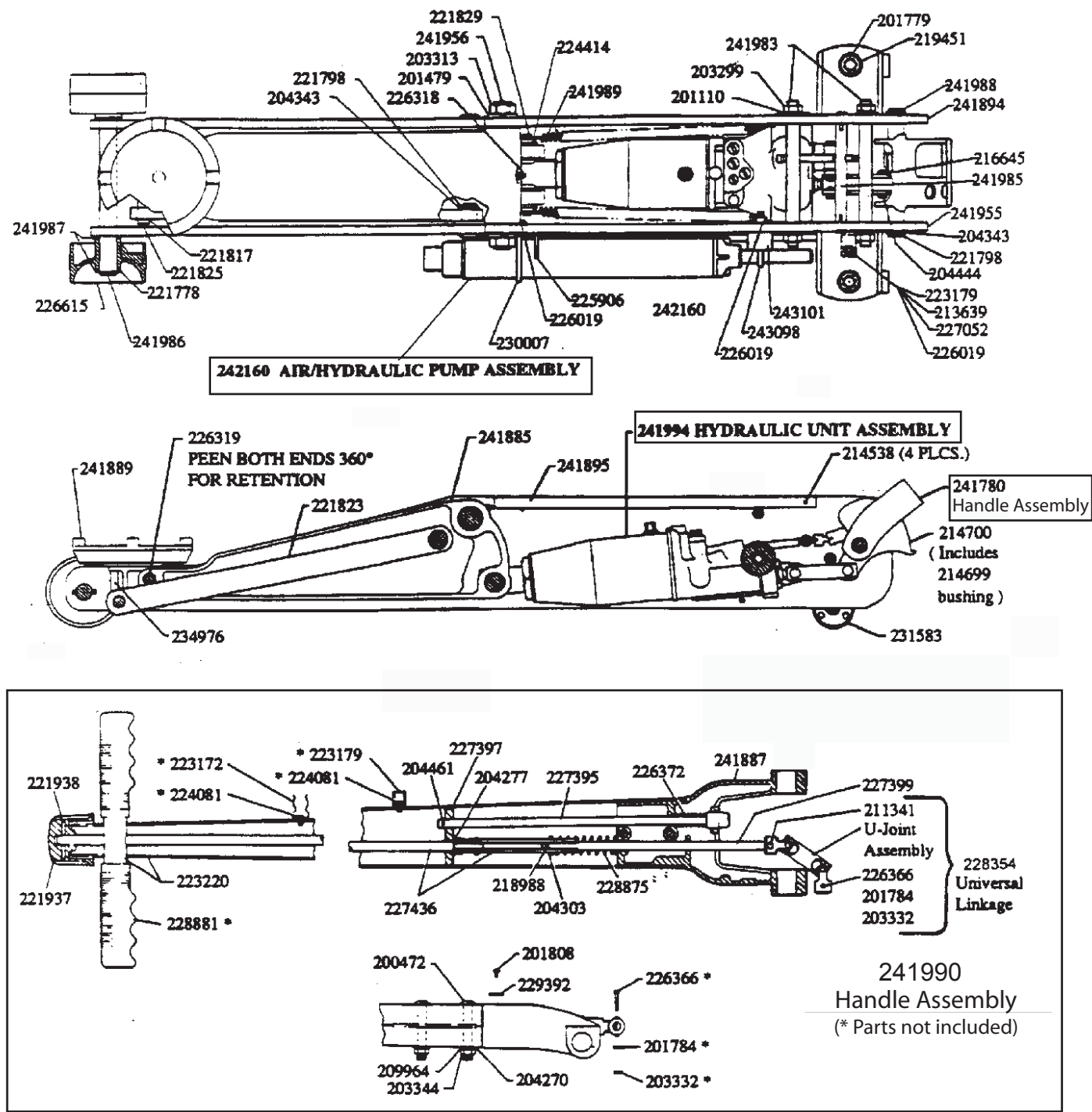


Figure 12 - Parts Illustration for Model HW93667

Model HW93667 Replacement Parts Illustration Part II - Hyd Unit (ref. parts list on pg. 18)

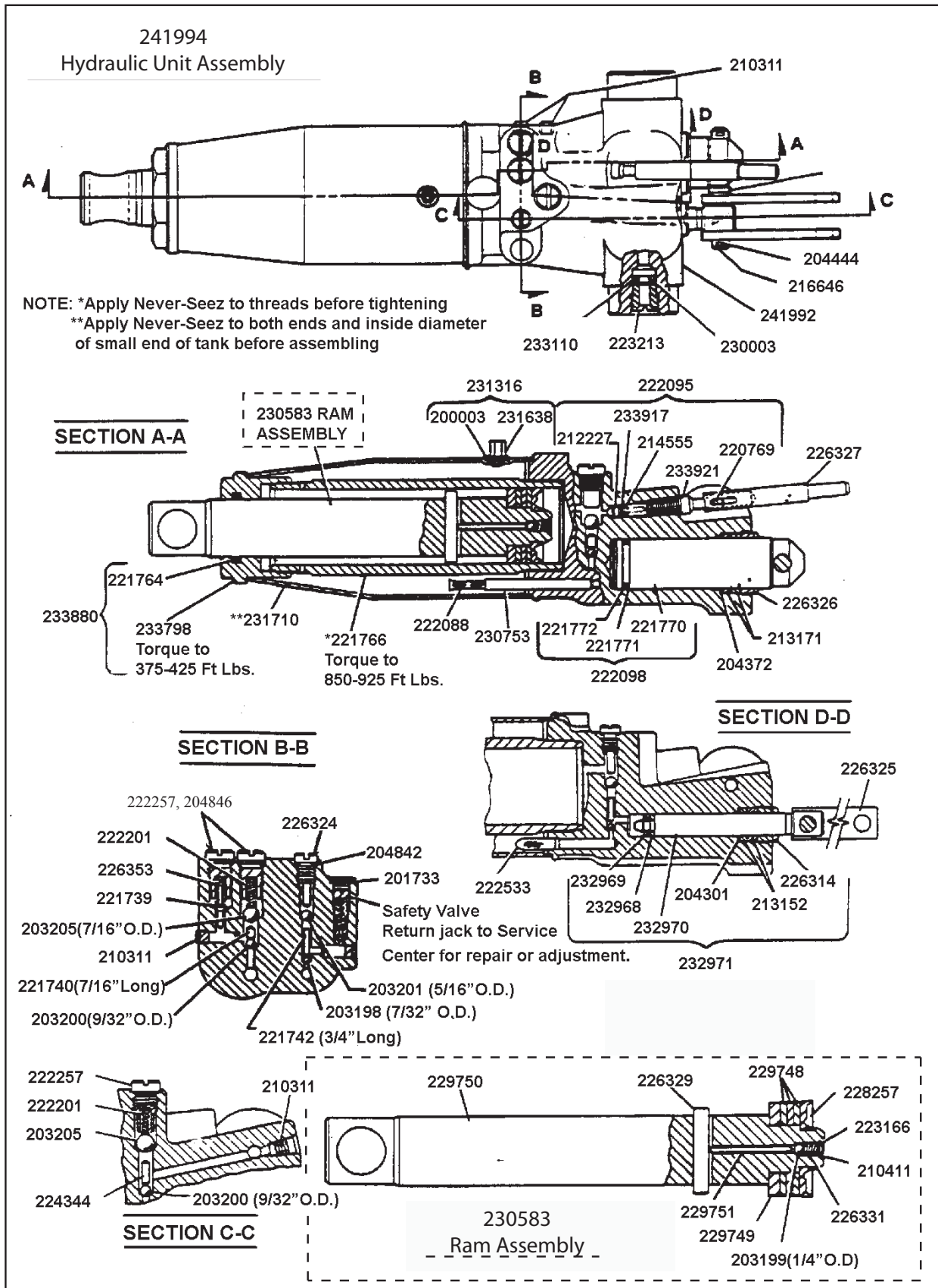


Figure 13 - Parts Illustration for Model HW93667 (Hyd. Unit)

Model HW93667 Replacement Parts Illustration Part III - Air Hyd. Pump

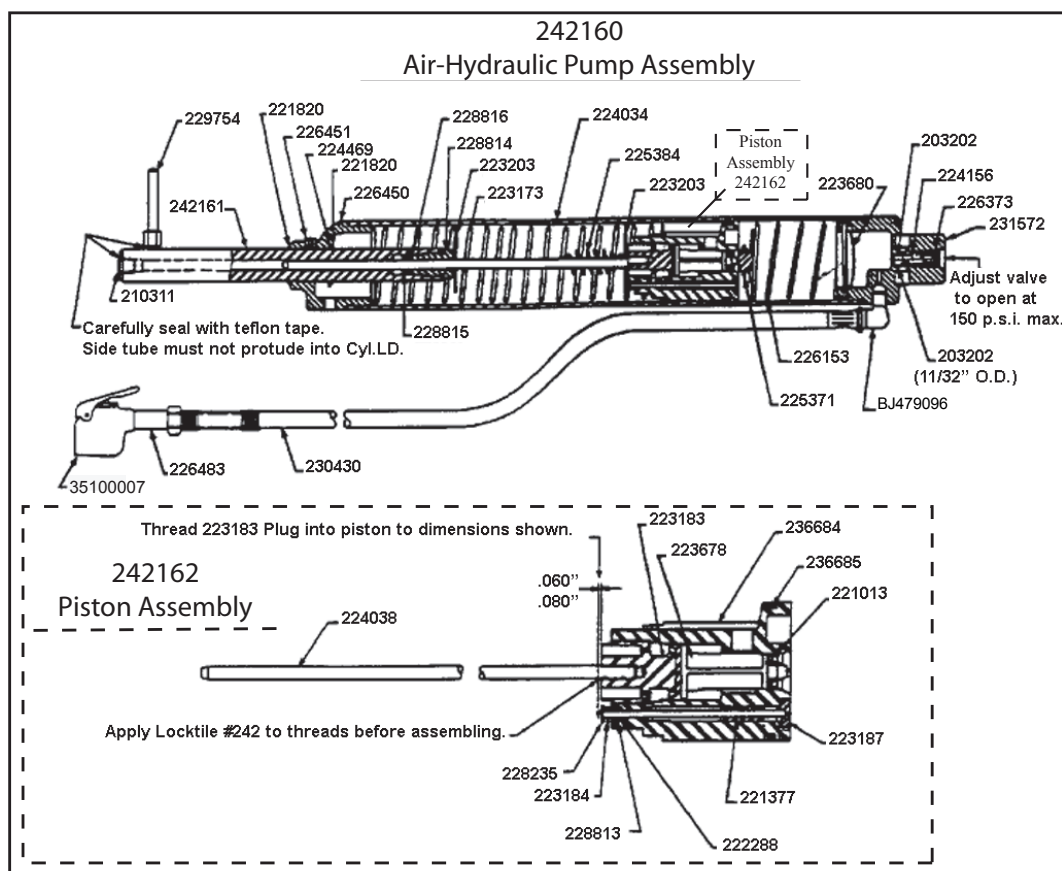


Figure 14 - Parts Illustration for Model HW93667 (Air Hyd. Pump)

Model HW93667 Replacement Parts List (ref. illustrations on pgs. 16, 17 & 18)

Part#	Description	Qty	Part#	Description	Qty	Part#	Description	Qty
200003*	Gasket	1	204301	Washer	1	216645	Pin	1
200472	Screw	2	204303	Washer	1	216646	Pump Pin	1
201110	Lockwasher	4	204343	Washer	4	218988	Roll Pin	1
201479	Lockwasher	2	204372	Washer	1	219451	Hex Nut	2
201733	Plug	1	204444	Cotter Pin	3	220769	Cross Pin	1
201779	Lockwasher	2	204461	Cotter Pin	1	221013#	U-cup Packing	1
201784	Lockwasher	1	204842*	Copper Gasket	1	221377	Roll Pin	1
N/A	Rivet	2	204846	Gasket Ring	2	221739*	Poppet	1
203198*	Ball (7/32")	1	209964	Lockwasher	2	221740	Ball Stop Plug (7/16")	1
203199*	Ball (1/4")	1	210225	Spacer	1	221742	Ball Stop Plug (3/4")	1
			210311	Pipe Plug	4			
203200*	Ball (9/32")	1				221764*	Ram Quad Ring	1
203201*	Ball (5/16")	1	210411*	Washer	1	N/A	Cylinder	1
203202	Ball (11/32")	1	211341	Rivet	1	221770	Low Pressure Pump	1
203205*	Ball (7/16")	1	212227	Release Valve	1	221771*	Washer	1
203299	Jam Nut	4	213152*	Packing Ring	2	221772*	Quad ring	1
			213171*	Packing Ring	2			
203313	Jam Nut	2				221778	Washer	2
203332	Nut	1	213639	Bolt	1	221798	Retainer Ring	4
203344	Jam Nut	2	214538	Groove Pin	4	221817	Retainer Ring	2
204270	Washer	2	214555*	O-ring	1	221820	Retaining Ring	1
204277	Washer	1	214699	Bushing	1	N/A	Parallel Link	2
			214700	Handle Segment Assy	1			

Model HW93667 Replacement Parts List (cont.)

<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>	<u>Part#</u>	<u>Description</u>	<u>Qty</u>
234696	Parallel Link Pin	1	226353*	Spring	1	233917*	Plastic Spring	1
221829	Pin	1	226366	Hex Head Bolt	1	233921	Release Stem	1
221937	Turning Knob	1	226372	Spring	1	234976	Cap Housing	1
221938	Roll Pin	1	226373	Adjusting Screw	1	236684	Piston	1
222088	Screen Assembly	1	N/A	End block	1			
						236685	Sealing Ring	1
222095	Release Stem Kit	1	226451	Set Screw	2	240564	Repair Kit (Hyd. Pump)	1
222098	Speed Pump Assy	1	226483	Pipe Nipple	1	241990	Handle	1
222201*	Spring	1	226615	Front Wheel	2	N/A	Bellcrank	1
BJ479096	Elbow	1	227052	Washer	1	241887	Handle Socket	1
222257	Plug Poppet Valve	2	227395	Plunger Assy	1	241889	Lift Cap	1
222288#	O-ring	1	227397	Release Link	1	N/A	Sideplate Assy	1
222533*	Screen	2	227399	Extension Rod	1	241895	Hydraulic Unit Cover	1
223166*	Ram Screen	1	227436	Turning Rod Assy	1	241907	Repair Kit (Hyd. Unit)-	
223172	Hose Clip	1	228235	Cotter Pin	1	N/A	Sideplate Assy	1
223173	Return Spring	1	228257*	U-cup	1	241982	Fulcrum Pin	1
223179	Hose Clip	2	228354	Universal Linkage	1	241983	Sideplate Tie Rod	2
223183	Plug	1	228813	Washer	1	241985	Support Rod	1
223184	Spring	1	228814#	Gland Nut	1	241986	Front Axle	1
223187#	Valve & Plunger	1	228815#	U-cup Packing	1	241987	Retainer Ring	4
223203	Trip Washer	2	228816#	Washer	1	241988	Handle Pivot Pin	1
223213	Gland Nut	1	228875	Spring	1	241989	Extension spring	2
223220	Handle & Cross Bar	1	228881	Grip	2	241992	Hydraulic Unit Casting	1
223678	Packing & Piston	1	N/A	Serial plate	1	241994	Hydraulic Unit Assy	1
223680	Screen	1	229748*	Heel Plate	3	242160	Air Hyd. Pump Assy	1
224034	Air Cylinder	1	229749	Washer	1	242161	Pump Cylinder	1
224038	Pump Rod	1	229750	Ram	1	242162	Piston Assembly	1
224081	Screw	3	229751	Pin	1	243098	U-bolt	1
224156	Spring	1	229754	Extension Tube	1	243101	Sleeve	1
224344	Ball Stop Plug	1	230003*	Back-up Washer	1	35100007	Air Valve	1
224414	Retaining Ring	1	230007	U-bolt	1			
224469	Washer	1	230430	Air Hose Assy	1	HW93667-K0 Label Kit (not shown)		
225371	Rubber Cushion	1	230583	Ram Assy	1	HW93657-M0 Manual		
225384	Trip Spring	1	230753	Suction Tube	1	(*) Items included in Repair Kit		
225906	Bracket, Speed Pak	1	231316	Vent Valve Assy	1	241907		
226019	Lock Nut	4	N/A	Cylinder Cap	1	# Items included in Repair Kit		
						240564		
226153	Spring	1	231583	Rear Caster	2			
226314	Gland Nut	1	231638	Filler Screw	1			
226318	Grease Fitting	1	231710	Oil Tank	1			
N/A	Bellcrank Pin	1	232968*	Back-up Washer	1			
226324	Pressure Plug	1	232969*	U-cup	1			
226325	Pump Link	2	232970	Pressure Pump	1			
226326	Nut	1	232971	Pressure Pump Kit	1			
226327	Slotted Tube	1	233110	Pump U-cup	1			
226329	Pin	1	233798	Tank Nut	1			
226331*	Spring	1	N/A	Tank Nut & Quad				
				Ring	1			



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