

OWNERS MANUAL

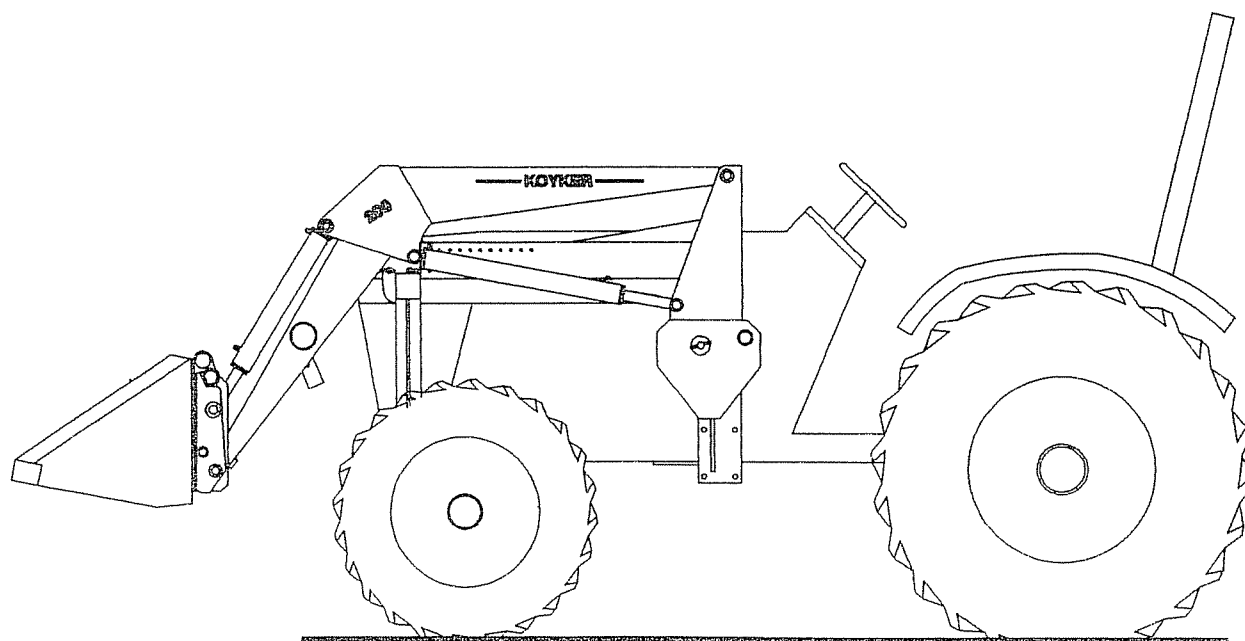
MANUAL NO. 654860

8/29/94

KOYKER[®]

200

LOADER



IMPORTANT - KOYKER DEALER

BE SURE THIS MANUAL IS GIVEN TO THE
PURCHASER FOR FUTURE REFERENCE

KOYKER MANUFACTURING CO., P.O. BOX 409
LENNOX, SD 57039

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INTRODUCTION

For years, Koyker Manufacturing Company of Lennox, South Dakota, has provided the farm loader industry with innovative ideas for a more efficient and dependable means of material handling. Now, with the increasing popularity of the MFWD (Mechanical Front Wheel Drive) tractors, Koyker has again met the challenge and provided the market with a loader that will allow the efficient use of these tractors in material handling. The new KOYKER 200 Loader provides you with state-of-the-art design and innovation for your on-farm handling chores.

Features such as quality construction, ease of maintenance, and high performance operating capacities, all at a low price, make the new 200 Loader one of the most efficient loaders ever. With proper care and handling, it will provide many years of dependable service.

This manual is designed to provide you with important information regarding the basic loader and bucket. Our sincere intent, in providing this manual, is to help you or those involved better understand the machine and to prevent accidents.

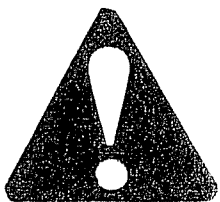
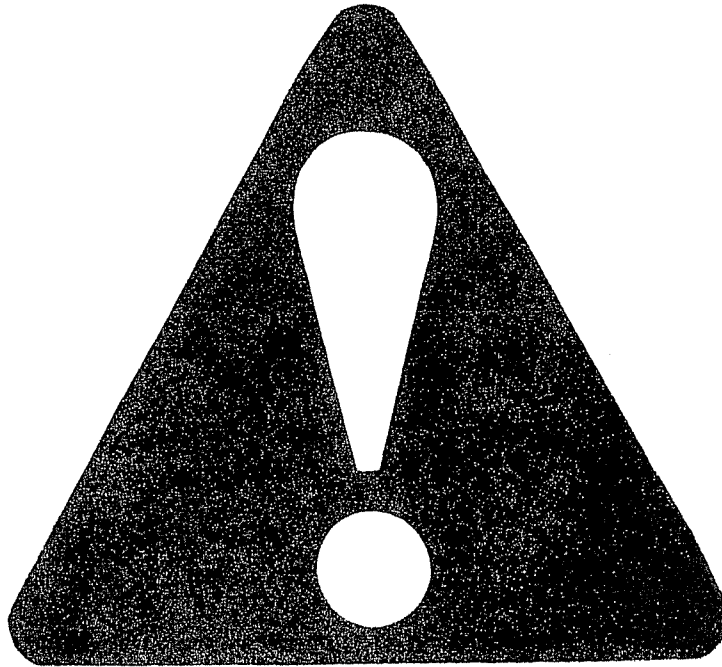
Should you have any questions, comments, improvements, or suggestions regarding the contents of any of the manuals provided, please contact Koyker Manufacturing Company at your earliest convenience.

We care about your safety!

SAFETY ALERT SYMBOL

The symbol shown below is used to call your attention to instructions concerning your personal safety. Watch this symbol it points out important safety precautions. It means **ATTENTION! Become Alert! Your Personal Safety Is Involved!**

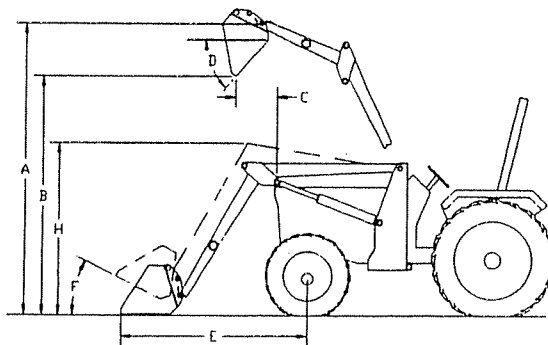
Read the message that follows and be alert to the possibility of personal injury or death.



WARNING

Anyone who will operate or work around a front-end loader shall first read this manual.

SPECIFICATIONS



Bucket Size
 Maximum Lift Height (A)
 Clearance w/Bucket Dumped (B)
 Reach at Maximum Height (C)
 Maximum Dump Angle (D)
 Reach w/Bucket on Ground (E)
 Bucket Rollback (F)
 Digging Depth
 Overall Height In Carry Position (H)

200 Loader

60"
 123"
 98 1/2"
 16"
 41°
 66"
 17° **
 11 1/2"
 60"

*Lift Capacity to Full Height

*Breakaway Capacity

Hydraulic Control Valve Requirements

2 1/2" Cyl.

2750lbs
 4000lbs

2" Cyl.

1400lbs
 2500lbs

Two Spool Selective

Control Valve required for Loader and Hydraulic controlled Bucket Cylinders.

Double Acting

Hydraulic Twin Cylinders

5ft. Material

6ft. & 7ft. Material

5ft., 6ft. & 7ft. Material

2 1/2" Bore x 18 3/8" Stroke

2" Bore x 18 3/8" Stroke

2 1/2" Bore x 27 7/8" Stroke

2" Bore x 27 7/8" Stroke

1385lbs.

1424lbs.

1455lbs.

Lift and Bucket Cylinders

Bucket Control

Standard (4 Point Pin) Bucket

Optional Buckets

Fast Attach Bucket

Bucket Cylinder Size (Twin)

Optional Bucket Cylinder Size (Twin)

Lift Cylinder Size

Optional Lift Cylinder Size

Approximate Weight w/5ft. Bucket (Less Mounts)

Approximate Weight w/6ft. Bucket (Less Mounts)

Approximate Weight w/7ft. Bucket (Less Mounts)

*Raising Time

*Lower Time

*Bucket Dump Time

*Bucket Rollback Time

2 1/2" Cyl.

8.0 Seconds

2" Cyl.

5.2 Seconds

5.5 Seconds

3.4 Seconds

5.5 Seconds

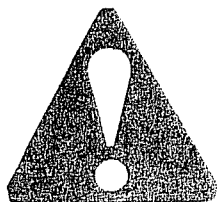
3.5 Seconds

6.5 Seconds

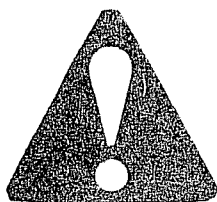
4.0 Seconds

SPECIFICATIONS CONTINUED

*Will vary depending upon tractor system capacity.

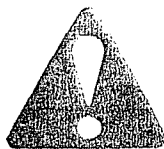


****NEVER ATTEMPT FULL ROLLBACK IN RAISED POSITION WITH BUCKET FULL.**



DO NOT USE LOADER ON TRACTORS WITH HYDRAULIC SYSTEM OUTPUT OF MORE THAN 2,500 P.S.I. FAILURE TO HEED MAY RESULT IN SERIOUS INJURY OR DEATH.

SAFETY



Improper use of a loader can cause serious injury or death. The following safety precautions, and those given on the tractor mount installation instructions, should be thoroughly understood before attempting to operate this machine.

BEFORE OPERATING:

Carefully study and understand this manual, the specific tractor mount instructions, and the attachment (s) manual (s).

Prior to operation, inspect the loader for system leaks and damaged, missing, or malfunctioning components in an effort to avoid the possibility of a dangerous failure involving structural members or hydraulic system components.

Be certain any repairs necessary are completed prior to loader operation.

Follow recommended maintenance procedures and precautions on Page 12

Completely familiarize yourself and others involved with the operation of the hydraulic control valve before operating the loader.

Be certain all bystanders are clear of the machine and operation area prior to operation.

It may be necessary to add wheel ballast or rear weights as recommended by the tractor manufacturer to maintain stability of the machine; to prevent tipping or upset which could result in serious injury or death. See mounting instructions for specific information.

It is recommended that both front and rear wheel treads be set to the widest recommended width to prevent tipping or upset which could result in serious injury or death.

This loader is designed for farm type operations such as snow removal, barn and feedlot cleaning or light grading and digging. It's design is **NOT** intended for commercial and /or industrial use.

DURING OPERATION:

Never operate the machine other than from the tractor operator's seat.

Be sure operating area is clear of others during machine operations.

Never lift, hoist, or carry humans in the bucket or on any portion of the loader or loader attachments. Failure to heed, may result in serious injury or death.

SAFETY CONTINUED



Transport the machine load at the slowest speed possible and with the loader boom at the lowest transport position to avoid tipping or upsetting, which may result in serious injury or death.

Be extremely careful when working on inclines or near loose fill, rocks, and holes as they can cause tipping or upsetting which may result in serious injury or death.

Be certain to avoid overhead electrical wires when operating loader. Contact with power lines may cause serious injury or death.

Avoid sudden stops when lowering or lifting the loader boom to prevent loss of control over the machine and/or load, which may result in serious injury or death.

Use maximum ballast and the widest recommended wheel setting on your tractor when handling large shiftable loads.

Never attempt to ram with the bucket at high speed or full tractor power. Sudden impact may result in structural failure and possible serious injury or death.

Never adjust or perform maintenance on the loader or tractor with the unit in motion, or without power source locked out.

Never get under bucket or lift arms or reach through the lift arms or bucket linkage when the loader is in operation. Inadvertent movement may cause serious injury or death.

FOLLOWING OPERATION:

Whenever machine is not in operation, lower the loader boom and set the tractor brakes, disengage drive, shut the engine off, and remove the ignition key before dismounting the tractor.

If loader is to be disengaged from tractor, be sure that loader is securely supported on a hard, level surface and that the stand is securely engaged. Be certain all connections between tractor and loader are free before disengaging.

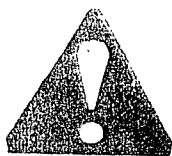
TRANSPORTING:

Use safety lights and SMV emblem in addition to whatever local codes require when equipment is being transported on the road or highway. Check with proper authorities for legal limitations.

Transport all loads at a slow and safe speed.

Carry the load as low as possible and maintain adequate visibility and good round clearance at all times.

SAFETY CONTINUED



PERFORMING MAINTENANCE:

Carefully review, understand, and follow the “maintenance” section in this owners manual before attempting to service loader.

Lower the bucket or attachment to the ground, shut off tractor engine, and relieve pressure in the hydraulic system before adjusting, lubricating, or servicing the loader.

Escaping hydraulic oil under pressure can penetrate the skin. Never use body to check for hydraulic leaks. Use cardboard when checking for leaks. See Fig. 1. Relieve hydraulic pressure before disconnecting any hydraulic line. Failure to heed may result in serious injury or death.

Before disconnecting hydraulic lines, lower the loader and attachments. Lock out the hydraulic supply and relieve all hydraulic pressure.

Replace any damaged or painted-over decals. See Page 8 for replacement decals.

REMEMBER:

1. Move Slowly!
2. Always use care and common sense!
3. Be careful for your own sake and for that of others!

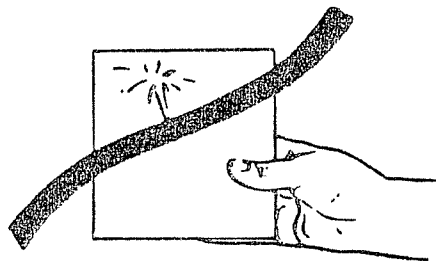


FIG. 1

SAFETY LABELS



CAUTION

Serial Number _____

DO NOT OPERATE LOADER WITHOUT FIRST READING OPERATORS MANUAL.

OPERATE LOADER FROM TRACTOR SEAT ONLY.

MOVE AND TURN TRACTOR AT LOW SPEEDS.

LOWER LOADER ARMS WHEN PARKING OR SERVICING.

CARRY LOADER ARMS AT A LOW POSITION DURING TRANSPORT.

ADD RECOMMENDED WHEEL BALLAST OR REAR WEIGHT FOR STABILITY.

MOVE WHEELS TO WIDEST SETTING RECOMMENDED FOR STABILITY.



ASAE R355

This symbol means caution! Stay Alert! Watch for it!

**KOYKER MFG. COMPANY
LENNOX, SD**

651873



**HYDRAULIC OIL UNDER PRESSURE
CAN PENETRATE THE SKIN!**

- NEVER USE ANY PART OF YOUR BODY TO CHECK FOR LEAKS IN HYDRAULIC LINES.
- IF YOU SUSPECT YOU HAVE A LEAK IN YOUR LINES ALWAYS USE CARDBOARD TO CHECK.
- BE SURE TO ALWAYS RELIEVE HYDRAULIC PRESSURE BEFORE DISCONNECTING LINES.

**FAILURE TO HEED WILL RESULT
IN SERIOUS INJURY OR DEATH!**

85505

02-0360

SAFETY LABELS CONTINUED



CAUTION

LIFTING OBJECTS

- 1. USE OF FRONT LOADERS FOR HANDLING LARGE HEAVY OBJECTS SUCH AS LARGE ROUND OR RECTANGULAR BALES, LARGE BALES, LOGS, DRUMS, ETC. IS NOT RECOMMENDED.**
- 2. HANDLING LARGE HEAVY OBJECTS CAN BE EXTREMELY DANGEROUS DUE TO:**
 - **DANGER OF ROLLING THE TRACTOR OVER.**
 - **DANGER OF UP-ENDING THE TRACTOR.**
- 3. DANGER OF THE OBJECT ROLLING OR SLIDING DOWN THE LOADER ARMS ONTO THE OPERATOR.**

IF YOU MUST PERFORM THIS TYPE OF WORK, PROTECT YOURSELF BY:

 - **NEVER LIFTING HIGHER THAN NECESSARY TO CLEAR THE GROUND WHEN MOVING.**
 - **BALLAST TRACTOR REAR TO COMPENSATE FOR LOAD.**
 - **NEVER LIFT OBJECTS WITHOUT ADEQUATE ANTI-ROLLBACK GUARDING.**
 - **ALWAYS MOVE SLOWLY AND CAREFULLY - AVOID ROUGH TERRAIN.**

ATTACHING THE LOADER



IMPORTANT:

Never attempt loader attachment on grades which are not reasonably level.

1. Check to be sure that the top surface of both mounting shoes are free of bolts, screws or other obstructions.
2. Drive the tractor slowly and carefully in between the loader arms only far enough to permit hook-up of the hydraulic system hoses.
3. Once all hoses have been properly coupled, drive the tractor forward checking to insure that the bottom of each upright clears the mount shoes. It may be necessary to operate the **lift** cylinder control valve either up or down to provide alignment for attachment of brace arms.
4. To allow the upright base to settle into the mount shoe, tip the bucket down slowly. After the upright contacts the shoe, engage the upright anchor bar into the rear of the shoe by driving the tractor ahead slowly
5. To secure the loader, install the #7421 - 3/4" diameter pins. Tighten the 3/4" diameter bolt on the front of the upright to draw the upright to the rear of the shoe. Do not tighten fully until installing and tightening the front bolt in each brace arm pipe.
6. After both uprights are secured to the shoes, raise the loader slowly to disengage and store the loader stand.
7. Prior to operation, be certain to review all safety and operation information contained within this manual.

OPERATION



WARNING:

Never allow anyone to operate the loader until they have carefully reviewed and understood this owner's manual.

FILLING THE BUCKET:

Approach and enter the pile with the bucket level.

Roll bucket back gradually as the loader moves through the pile.

RAISING THE BUCKET:



WARNING:

Make sure material in bucket cannot spill out on to tractor when loader boom is raised. Keep clear of overhead obstructions such as trees, limbs or power lines when raising the bucket.

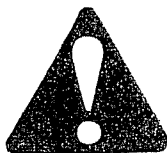
Side cutting is the best method of reducing large stockpiles. If the sides of the pile are too high, use the loader to pull them down and reduce the possibility of slides.

REMOVING OR ATTACHING THE FAST ATTACH BUCKET OR OTHER OPTIONAL ATTACHMENTS:

Each loader is equipped with attachment control spears. The bucket is carried on the spear and is fastened with 1" pins.

To install the bucket, rotate the spears forward to approximately 45°. When certain that the loader is square, centered, and reasonably level with the bucket, carefully move forward until both spear points make contact. Using only the lift cylinders, slowly raise the loader until both spears enter the bucket receptacle. When this has been achieved, tilt the spears back. Be certain the retaining pins and clips are properly installed.

OPERATION CONTINUED



WARNING:

NEVER attempt to operate the loader with someone near the loader frame or bucket.

To remove the bucket, reserve the procedure as just described .

DETACHING THE LOADER



IMPORTANT:

Never attempt loader detachment on grades which are not reasonably level.

1. Raise loader frame slightly to permit loader stand storage.
2. Lower loader and tip bucket slightly forward to apply pressure to mount connection. **NOTE:** This will prevent the loader from inadvertently rocking forward when the attachment screws are removed.
3. Loosen the 3/4" bolt on the front of both uprights and remove the #7421 - 3/4" diameter locking pin
4. Carefully, and very slowly, back out far enough to permit separation of the upright anchor.
NOTE: Should the loader move when tractor is backed up, try rotating the bucket up or down.
5. Before completely backing out, disconnect and store the loader system hydraulic hoses. It is important that the hoses be properly stored to keep the hose couplers as clean as possible.

IMPORTANT:

Never store the detached loader where insufficient soil bearing capacity exists. Good firm clay or firmly packed dirt are sufficient, providing the area is dry. If you are unsure, use blocking under the stand foot to disperse the load. Failure to heed, may allow the loader to settle and prevent attachment at later date.

LOADER INSPECTION, LUBRICATION, AND MAINTENANCE

Lower the bucket to the ground, shut off tractor engine, and relieve the pressure in the hydraulic system before adjusting, lubricating, or servicing the loader.

Inspect all pins and grease fittings before each use and lubricate with heavy duty grease as indicated in this manual.

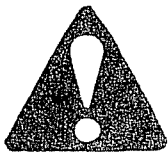
Periodically check all bolts for looseness and retorque if necessary

Before storage, be certain all hydraulic cylinders are fully collapsed so that the rod will not be exposed to the elements or damaged.

Be certain hydraulic system remains sealed at all times to prevent contamination.

Check and maintain an adequate fluid level in the tractor reservoir prior to use.

Inspect all hydraulic system hoses and fittings. Replace prior to further operation if damaged.



WARNING:

Escaping hydraulic oil under pressure can penetrate the skin. Never use body to check for hydraulic leaks. Use cardboard when checking for leaks. See Fig. 1. Relieve hydraulic pressure before disconnecting any hydraulic line. Failure to heed may result in serious injury or death,

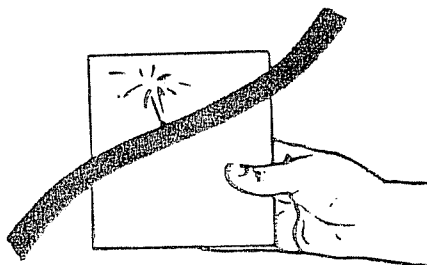


FIG. 1

PARTS IDENTIFICATION SCHEDULE

KEY	PART NUMBER	DESCRIPTION	QUANTITY
1	653860	Main Frame Assembly	1
2	653880	RH Upright Assembly	1
3	653870	LH Upright Assembly	1
4	654693	Upright Crossmember	1
5	654687	Top Hydraulic Oil Line	1
6	654688	2nd Hydraulic Oil Line	1
7	654689	3rd Hydraulic Oil Line	1
8	654690	4th Hydraulic Oil Line	1
9	654691	Oil Hose 26"	6
10	654692	Oil Hose 18"	2
11	654680	Lift Cylinder 2 1/2" x 27 7/8" Stroke	2
12	653890	Bucket Cylinder 2 1/2" x 18 3/8" Stroke	2
13	77262	Wrap Clip	2
14	654694	RH Spear Assembly	1
15	653948	LH Spear Assembly	1
16	650830	Stand Assembly	1
17	641119	Lock Pin Assembly	1
18	650834	Main Frame Pin	4
19	77267	Mount Pin	2
20	640021	Hex Bolt, 5/16"NC x 2 1/4"	4
21	640128	Locknut, 5 16"NC	4
22	640032	Hex Bolt, 3/8"NC x 1 1/4" Cap Screw	8
23	640154	Flatwasher, 3/8"	8
24	640153	Lockwasher, 3/8"	8
25	640132	Hexnut, 3/8"NC	8
26	651216	Hex Bolt, 3/4"NC x 4"	4
27	651217	Hex Bolt, 3/4"NC x 5"	4
28	640145	Locknut, 3/4"NC Nylon	8
29	640072	Hex Bolt, 1/2"NC x 6"	2
30	640157	Lockwasher, 1/2"	2
31	640139	Hexnut, 1/2"NC	2
32	640009	Hex Bolt, 1/4"NC x 1 1/2"	4
33	640126	Locknut, 1/4"NC	6
34	653713	Plastic Oil Line Bracket	16
35	650246	#6 Hitch Pin Clip	3
36	654739	5' Fast Attach Bucket (Optional)	1
37	653891	6' Fast Attach Bucket (Optional)	1
38	653954	7' Fast Attach Bucket (Optional)	1
39	654757	5' Standard Bucket (Optional)	1
40	653957	6' Standard Bucket (Optional)	1
41	653958	7' Standard Bucket (Optional)	1
42	654795	Bucket Cylinder 2" x 18 3/8" (Optional)	2
43	654761	Lift Cylinder 2" x 27 7/8" (Optional)	2
44	654632	"KOYKER" Decal	3
45	654635	"200" Decal	2
46	653160	Stripe Decal	4

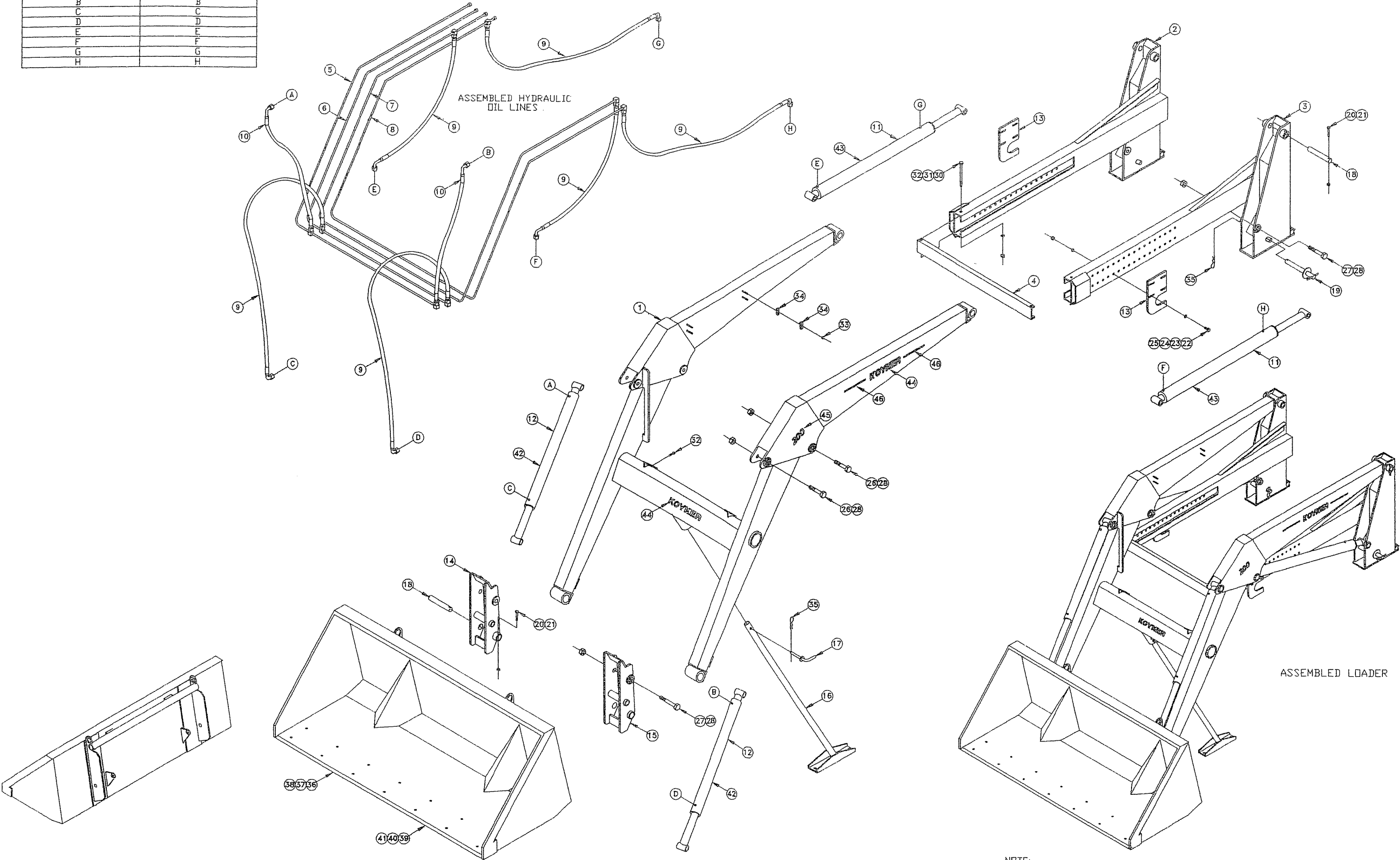
WARRANTY

Koyker Manufacturing Company (Koyker) warrants to the original purchaser only that the goods manufactured by Koyker are free from defects in material and workmanship under normal use and service and when properly installed for a period of one (1) year from the date of purchase. Any defective part or component must be returned to the factory at the purchaser's expense for inspection by Koyker. The obligation on Koyker is limited to repairing or replacing at its factory any part or component determined to its satisfaction to be defective. **KOYKER SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.** All transportation charges shall be paid by purchaser. Purchaser must notify Koyker of a claim by registered or certified mail, return receipt requested, within thirty (30) days after discovery or the claim shall be deemed waived.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No warranty is given by Koyker for parts, components, or trade accessories furnished by Koyker but not manufactured by it. They are covered by the warranty of their manufacturer, if any. No person, firm, or corporation including the selling dealer is authorized to assume for Koyker any other liability in connection with the sale of these goods.

User shall notify KOYKER in writing within 30 days, of any accident or occurrence involving KOYKER products resulting in personal injury or property damage and shall cooperate fully with KOYKER in investigating and determining the cause of such accident or occurrence. In the event that user fails to give such notice to KOYKER and so cooperate, user agrees to indemnify and save KOYKER harmless from all loss or damage arising from such accident or occurrence.

HOOKUPS FOR HYDRAULIC OIL LINES	
A	A
B	B
C	C
D	D
E	E
F	F
G	G
H	H



NOTE:
1. LUBRICATE ALL PINS EVERY 10 HOURS OF OPERATION UNDER NORMAL OPERATING CONDITIONS. SEVERE OPERATING CONDITIONS MAY REQUIRE MORE FREQUENT LUBRICATION.

CYLINDER WARRANTY

All cylinder claims shall be handled by Koyker Dealers or Distributors. All hydraulic cylinders are thoroughly inspected before shipment from factory. Therefore, no claim can be granted where a cylinder has been damaged or abused (including, but not limited to, bent tubes, dents, nicks, abused threads, attempted alterations, or welding), nor unless made to Koyker within one (1) year from sale to original purchaser.

Any defective cylinder reported to Koyker within one (1) year from sale by dealer to original purchaser will be replaced after properly inspected by Koyker. In such case, notify your Koyker Dealer and he will give you proper instructions.

If inspection proves cylinder is not defective and has been abused or otherwise damaged, any charges will be paid by original purchaser immediately after he has been notified of the result of Koyker's inspection of the cylinder sent in for inspection.

Cylinders requiring factory repair more than one (1) year after sale to original purchaser, can be given to Dealer for return to Koyker with transportation charges prepaid. Leaks around the shaft seal and internal bypass leaks can be field repaired. Service kits are available for this repair.

HYDRAULIC CYLINDERS

INSPECTION AND MAINTENANCE:

Periodically check all hydraulic system connections to insure a leak-free condition. Also, be certain to maintain proper fluid levels in the tractor hydraulic system as in accordance with the method and frequency recommended in the tractor operator's manual.

Use only hydraulic fluids recommended for your tractor hydraulic system by the manufacturer. Recommended hydraulic fluid for operation of the loader is DTE Light Hydraulic Oil Viscosity 150 SSU

Keep hydraulic system clean. Be certain to maintain recommended oil filter service intervals.

All internal surfaces of the hydraulic system on your loader have been factory cleaned, inspected, and plugged with protective caps prior to shipment. Be certain all protective caps are securely in place until hydraulic system assembly is completed.

Care must be taken with your loader cylinders. Nicks, scratches, rust or other shaft damage can cause seal damage resulting in cylinder leakage and poor performance.

IMPORTANT:

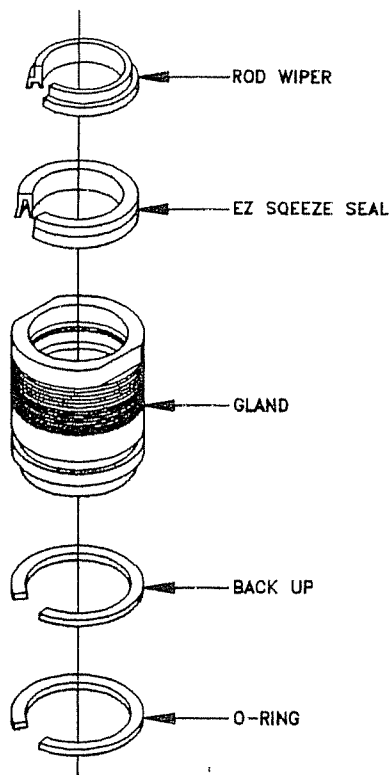
Read these service tips before beginning assembly of cylinder gland or piston.

1. Keep seals clean from the time they are removed from package until they are installed.
2. Clean the groove or bore into which the seal is to be fitted before installing the seal.
3. Never touch the seal lip in handling. Always pick up the seal by its outer member.
4. Inspect each seal lip carefully for nicks, scratches, and dirt at time of installation. If dirty, use a soft, clean cloth and carefully wipe off seal. **DO NOT** wipe seal with fingers as this only imbeds dirt in the seal.

NOTE: Seals can be made more pliable and easier to install, if first heated in hydraulic oil to 160 F°. Never use direct heat on any seals.

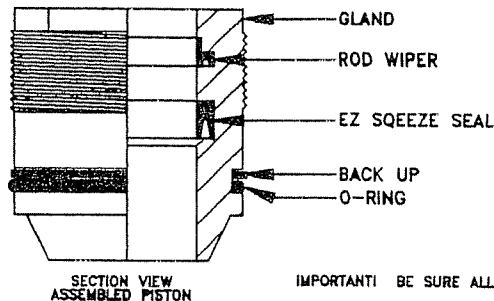
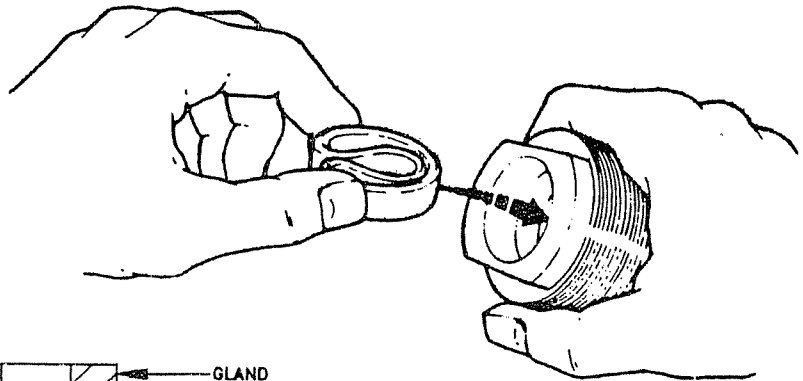
IMPORTANT: Never clean rubber related seals with a mineral based solvent! Clean rubber seals in denatured alcohol or non-mineral based solvents only.

CYLINDER GLAND SERVICE DIAGRAM



ALL GLAND SEALS SHOWN WITH A SECTION REMOVED TO FACILITATE CORRECT INSTALLATION.

NOTE: TO INSTALL ROD WIPER AND EZ-SQUEEZE SEAL FOLD SIMILAR TO SHAPE SHOWN BELOW, SLIP INTO GLAND BORE AND LOCATE EACH IN ITS RESPECTIVE GROOVE. IF TOOLS ARE USED TO FOLD SEALS, TAKE CARE NOT TO DAMAGE SEALING SURFACES.

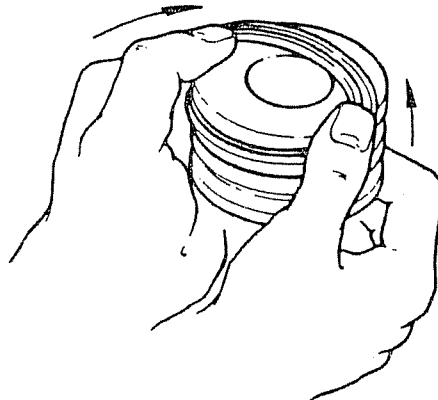
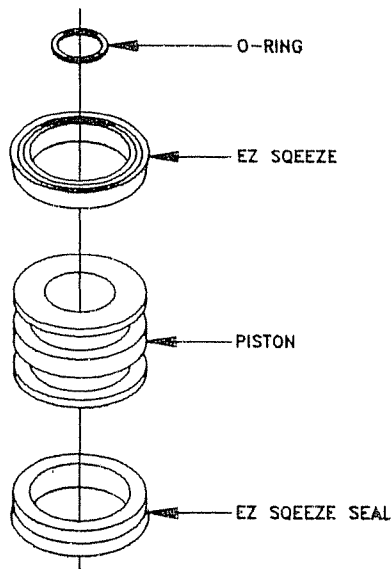


IMPORTANT! BE SURE ALL GLAND AND PISTON SEALS HAVE BEEN INSTALLED CORRECTLY BEFORE CYLINDER IS ASSEMBLED!

CYLINDER PISTON SERVICE DIAGRAM

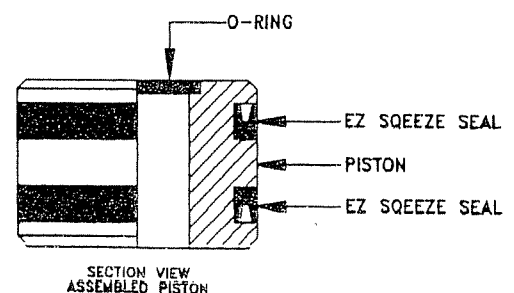
TO REMOVE SEALS

CAREFULLY CUT ACROSS EACH SEAL WITH A SHARP KNIFE. BE SURE NOT TO SCRATCH SEALING SURFACES OF ALUMINUM PISTON. IF A SHARP KNIFE IS NOT AVAILABLE, AN ELECTRIC SOLDERING GUN OR HOT IRON MAY BE USED TO MELT THROUGH SEALS.



TO INSTALL SEALS:

1. THOROUGHLY CLEAN PISTON SEALING SURFACES OF ALL FOREIGN MATTER
2. HEAT NEW SEALS IN HYDRAULIC OIL TO 160 DEGREES F. NEVER USE A DIRECT FLAME OR HEATED WATER ON HYDRAULIC SEALS.
3. REMOVE SEALS FROM OIL WIPE DRY AND INSTALL IN PISTON GROOVES AS SHOWN IN ILLUSTRATION AT LEFT. BE SURE SEALS HAVE COMPLETELY SEATED IN PISTON GROOVES BEFORE ALLOWED TO COOL.
4. REPLACE PISTON ON CYLINDER SHAFT AND ASSEMBLE CYLINDER WHEN SEALS HAVE COOLED TO ROOM TEMPERATURE.



2 1/2" CYLINDER SERVICE KITS

KIT NO. 1A:

Complete kit with all seals needed to service one (1) 2 1/2" Cylinder. Consists of:

1 each	2 1/2" Gland "O" Ring	#ARP-568-228
1 each	2 1/2" Backup Ring	#073-228
1 each	1 1/2" EZ Squeeze Seal	#001-115
1 each	1 1/2" Rod Wiper	#006-022
2 each	2 1/2" EZ Squeeze Seal	#2496-200
1 each	1" Rod "O" Ring	#214

KIT NO. 2A:

Complete assembled 2 1/2" Cylinder Gland with all seals. Consists of:

1 each	2 1/2" Aluminum Gland	#10034
1 each	2 1/2" Gland "O" Ring	#ARP-568-228
1 each	2 1/2" Backup Ring	#073-228
1 each	1 1/2" EZ Squeeze Seal	#001-115
1 each	1 1/2" Rod Wiper	#006--22

KIT NO. 3A:

Complete assembled 2 1/2" Cylinder Piston with all seals. Consists of:

1 each	2 1/2" Aluminum Piston	#10035
2 each	2 1/2" EZ Squeeze Seal	#2496-200
1 each	1" Rod "O" Ring	#214

KIT NO. 4A:

All seals needed to service one (1) 2 1/2" Cylinder Gland. Consists of:

1 each	2 1/2" Gland "O" Ring	#ARP-568-228
1 each	2 1/2" Backup Ring	#073-288
1 each	1 1/2" EZ Squeeze Seal	#001-115
1 each	1 1/2" Rod Wiper	#006-022

KIT NO. 5A:

All seals needed to service one (1) 2 1/2" Cylinder Piston. Consists of:

2 each	2 1/2" EZ Squeeze Seal	#2495-200
1 each	1" Rod "O" Ring	#214

2" CYLINDER SERVICE KITS

KIT NO. 1D:

Complete kit with all seals needed to service one (1) 2" Cylinder. Consists of:

1 each	2" Gland "O" Ring	7404-13
1 each	2" Backup Ring	7404-14
1 each	1 1/4" EZ Squeeze Rod Seal	7404-12
1 each	1 1/4" Rod Wiper	7404-15
2 each	2" EZ Squeeze Piston Seal	7404-10
1 each	3/4" Rod "O" Ring	7404-11

KIT NO. 2D:

Complete assembled 2" Cylinder Gland with all seals. Consists of:

1 each	2" Aluminum Gland	7404-9
1 each	2" Gland "O" Ring	7404-15
1 each	2" Backup Ring	7404-14
1 each	1 1/4" EZ Squeeze Rod Seal	7404-12
1 each	1 1/4" Rod Wiper	7404-15

KIT NO. 3D:

Complete assembled 2" Cylinder Piston with all seals. Consists of:

1 each	2" Aluminum Piston	7404-8
2 each	2" EZ Squeeze Piston Seal	7404-10
1 each	3/4" Rod "O" Ring	7404-11

KIT NO. 4D:

All seals needed to service one (1) 2" Cylinder Gland. Consists of:

1 each	2" Gland "O" Ring	7404-13
1 each	2" Backup Ring	7404-14
1 each	1 1/4" EZ Squeeze Rod Seal	7404-12
1 each	1 1/4" Rod Wiper	7404-15

KIT NO. 5D:

All seals needed to service one (1) 2" Cylinder Piston. Consists of:

2 each	2" EZ Squeeze Piston Seal	7404-10
1 each	3/4" Rod "O" Ring	7404-11

2 1/2" CYLINDER PARTS LIST

LIFT CYLINDER (Part No. 654680)

Key	Part Number	Description	Quantity
1	654682	Tube Assembly	1
2	79138-1	10-14UNS Locknut	1
3	651458	Piston Assembly	1
4	640301	1" "O" Ring	1
5	651457	Gland Assembly	1
6	654684	Rod Assermbly	1
	1A	Seal Kit	1

BUCKET CYLINDER (Part No. 653890)

1	653888	Tube Assembly	1
2	79138-1	10-14UNS Locknut	1
3	651458	Piston Assembly	1
4	640301	1" "O" Ring	1
5	651457	Gland Assembly	1
6	653886	Rod Assembly	1
7	1A	Seal Kit	1

2" CYLINDER PARTS LIST

LIFT CYLINDER (Part No. 654761)

1	654763	Tube Assembly	1
2	7404-7	3/4" Jam Nut	1
3	651548	Piston Assembly	1
4	7404-11	3/4" "O" Ring	1
5	651549	Gland Assembly	1
6	654764	Rod Assembly	1
7	1D	Seal Kit	1

BUCKET CYLINDER (Part No. 654795)

1	654796	Tube Assembly	1
2	7404-7	3/4" Jam Nut	1
3	651548	Piston Assembly	1
4	7404-11	3/4" "O" Ring	1
5	651549	Gland Assembly	1
6	654799	Rod Assembly	1
7	1D	Seal Kit	1

HYDRAULIC CYLINDER PARTS DIAGRAM

