

***Operating-Service
Manual***



***Model S L D
Shoe Lifting Device***

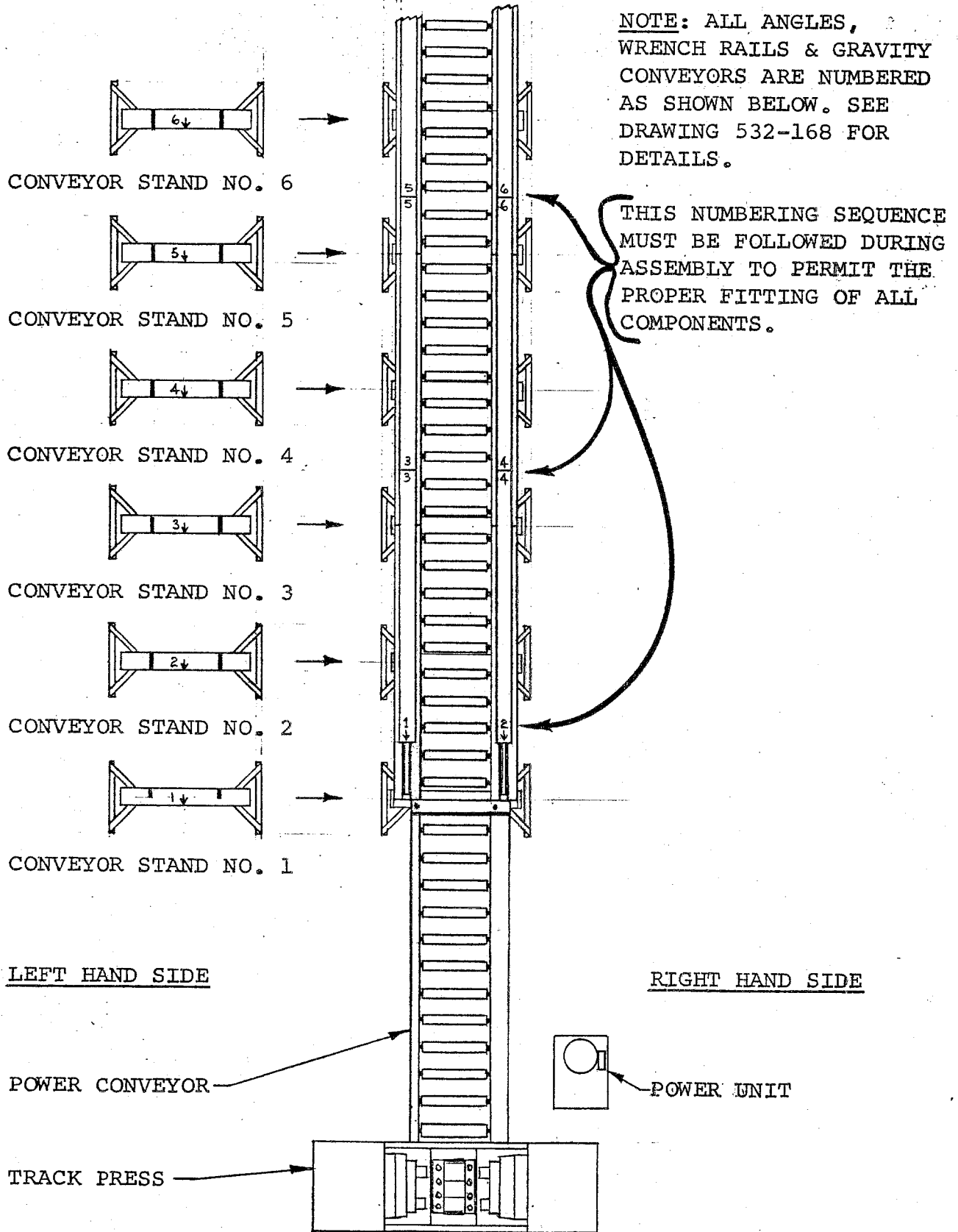
WOLFF MANUFACTURING COMPANY

1611 Adrian Road
Burlingame, California 94010
(415) 692-5010



SHOE LIFTING DEVICE

(P.N. 532-168)





1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025



7/79

(ACCESSORY ITEM FOR THE WS-200 TRACK PRESS)

IMPORTANT

THE RIGHT AND LEFT HAND SIDES OF THE SHOE LIFTING DEVICE ARE DETERMINED BY LOOKING DOWN THE LENGTH OF THE ASSEMBLY FROM THE OPERATOR'S SIDE OF THE TRACK PRESS.

ASSEMBLY INSTRUCTIONS

A. THE CONVEYOR STANDS:

Eleven conveyor stands are used with this assembly. Each stand is numbered from one (1) through eleven (11) on the top channel with directional arrows for proper positioning. Locate the stands with the arrows pointing towards the main press frame and the numbers (starting with one (1)) building out from the end of the power conveyor.

NOTE: THERE ARE TWO SLOTTED HOLES IN THE ANGLE ON THE END OF THE POWER CONVEYOR. THESE SHOULD BE POSITIONED SO THAT THEY FIT OVER THE TWO (2) 3/8"-16 STUDS FOUND ON THE TOP CHANNEL OF CONVEYOR STAND NO. 1. USE TWO (2) 3/8" HEX NUTS (NYLOCK) AND 3/8" FLAT WASHERS TO HOLD THE ANGLE TO THE CONVEYOR STAND. (SEE FIGURE 1)

B. RIGHT AND LEFT HAND LOWER ANGLE WELDMENTS: (WITH LINK CLEVIS ATTACHED)

IMPORTANT

EVERY ANGLE HAS A NUMBER MARKED ON EACH END IDENTIFYING WHERE THEY ARE PLACED IN THE ASSEMBLY. ALL ODD NUMBERS ARE ON THE LEFT AND THE EVEN NUMBERS ARE ON THE RIGHT. REFERENCE THE ASSEMBLY NUMBERING ILLUSTRATION.

Use 3/8"-16 NC hex head cap screws X 1" lg. with split lockwashers to attach the angles to the mounting plates on the underside of each stand. (SEE FIGURE 2)

Once the angles have been connected to the conveyor stands they may be joined together. The first angle section is already connected to the power conveyor assembly. Join the other sections together by using 3/8"-16 NC socket head cap screws X 1" (with locktite) to lock the connecting bars that overlap the ends of each angle. (SEE FIGURE 3)

As each angle is added to the assembly, be certain that it is in line (no weaving or kinks).

C. WRENCH RAIL ASSEMBLY:

The wrench rails are numbered the same as the angles. The right side has EVEN numbers while the left side has ODD numbers.

Lay the first wrench rail on the assembly with the numbers (1-left side: 2-right side) towards the press frame. One channel of the rail should butt against (NOT ON) the base edge of the power conveyor's mounting angle to prevent it from sliding forward.

Once the first wrench rail has been positioned, each section may be added along the length of the assembly. The connections are made using rail tabs (P.N. 512-508) and 5/16"-18 UNC flat head cap screws X 5/8" lg. with lockwashers and jam nuts. (SEE FIGURE 4)

IMPORTANT

WHEN CONNECTING THE RAIL TABS TO THE RAILS, ONLY THREE (3) OF THE FOUR (4) HOLES ARE USED. EACH TAB IS OFFSET ONE (1) HOLE POSITION TOWARDS THE PRESS FRAME SO THAT IT DOES NOT BLOCK THE LIFTING LINKS. (SEE FIGURE 4)

D. GRAVITY CONVEYOR ASSEMBLY:

The gravity conveyor frames are numbered the same as the wrench rails and the angles.

Place the first gravity conveyor on the assembly with the numbers (1-left side: 2-right side) towards the press frame. The end of the two side channels will butt against the flange of the power conveyor's mounting angle.

Once the first conveyor assembly has been positioned, the rest of the sections may be added along the length of the assembly. Use connecting brackets (P.N. 512-603) and 1/2"-13 NC hex head cap screws X 1 1/4" lg. with lockwashers and 1/2" NC nuts at each joint. (SEE FIGURE 5)

E. MOUNTING THE UPPER ANGLES: (WITH LIFTING BARS ATTACHED)

The upper angles, like the lower angles and wrench rails, are numbered with EVEN numbers for the right side and ODD numbers for the left side.

Use 1/2" dia. socket head shoulder bolts X 1" lg. (P.N. 529-006) with 1/2" flat washers (P.N. 529-830) to mount each of the 22 sets of lifting links to the various link clevis welded to the lower angle weldments. Seal with loctite.

CAUTION

WHEN INSTALLING THE UPPER ANGLES, EXTREME CARE SHOULD BE USED TO KEEP THE BARS AND LINKS FROM PIVOTING AND DROPPING BETWEEN THE WRENCH RAIL AND THE GRAVITY CONVEYOR FRAMES. AVOID THIS BY FIRMLY BRACING THE FIRST BAR (ON BOTH SIDES) IN AN UPRIGHT POSITION AFTER IT HAS BEEN CONNECTED.



7/79

Use 1/2" socket head shoulder bolts X 5/8" lg. (without washers but with locktite thread sealant or an equivalent) to mount the first upper angles (numbered 1-3 for the left side and 2-4 for the right side) to the lifting link sets closest to the power conveyor.

Mount the next upper angles (numbered 3-5 left and 4-6 right) again using 1/2" shoulder bolts x 5/8" lg. (with locktite) to LOOSELY connect the two bars together where the connecting tabs overlap. (SEE FIGURE 7) Continue connecting the upper angles until both sides are completely assembled. Recheck the entire assembly alignment. When it runs in a straight line, tighten down all the fasteners.

NOTE: IF ANY OF THE BOLTS SHOW PAST THE CONNECTING PLATE, THEY SHOULD BE GROUND EVEN WITH THE PLATE.

F. LIFTING CHANNEL:

With the upper angles braced in an upright position, the channel mounts just before the #7 conveyor stand. The sides of the channel will fit through the gap between the wrench rail frame and the gravity conveyor frame. (SEE FIGURE 8) 1/2"-13 NC hex head cap screws X 3/4" lg. (locktite) fasten the channel to the sides of the upper angles.

G. HYDRAULIC CYLINDER:

With the ports of the hydraulic cylinder facing the track press frame, connect the lower end of the cylinder to the clevis on the mounting angle of the number 7 conveyor stand with a 1" dia. pin X 3 1/2" lg. (P.N. 529-915). The extended cylinder shaft should be attached with a 1" dia. pin X 4 1/2" lg. (P.N. 529-914) to the clevis located on the underside of the lifting channel.

H. ADJUSTMENT OF THE LIFTING CHANNEL TO THE HYDRAULIC CYLINDER:

Four (4) sets of fasteners (3/8"-16 NC hex head cap screw X 1 1/4" lg., 3/8" flatwasher, 3/8"-16 NC nylock hex nut) connect the clevis and plate weldment (517-551) to the pivot channel weldment (517-540). There are slotted holes in the pivot channel that will permit it to be adjusted so that it rests on a point (towards the press frame) approximately 1/8" past "DEAD UPRIGHT". After the hydraulic flow control had been adjusted (see page 14) and the entire system has been tested, the pivot channel and the clevis and plate weldment should be welded together to prevent the chance of their working loose.

I. BRACING BARS:

Two bracing bars are located between the base of conveyor stand No. 7 and the mounting angles running under conveyor stand No. 6.



3/8" NC HEX head cap screws X 1" lg. (P.N. 529-147) with lockwashers (P.N. 529-004) attach the bars to the angles while 3/8"-16 NC hex head cap screws X 1½" lg. (P.N. 529-100) with lockwashers (P.N. 529-004) and nuts (P.N. 529-128) secure them to the base of conveyor stand No. 7. REFERENCE THE MAIN ASSEMBLY ILLUSTRATION)

J. THE HYDRAULIC SYSTEM: (SEE FIGURES 9, 10 & 12)

1. The control valve. Four (4) 3/8"-16 hex head cap screws X 3/4" lg. with lockwashers are used to mount the valve to the base plate after it has been welded to the press frame. (SEE FIGURE 9)

NOTE: THE BASE PLATE SHOULD BE LOCATED ON THE FRAME WITH THE 2 3/8" SPACING BETWEEN MOUNTING HOLES RUNNING PARALLEL WITH THE BASE OF THE TRACK PRESS FRAME.

2. Connecting the hose lines.

- a. Disconnect the hose at the elbow from the low pressure fitting on the power unit and connect it to the 90° elbow on the "OUT" port of the control valve. (SEE FIGURES 9 & 12)

NOTE: REFERENCE THE HYDRAULIC ILLUSTRATION IN THE TRACK PRESS MANUAL: THE HOSE IS LISTED AS P.N. 527-665 FOR CURRENT MODELS AND AS 527-341 FOR OLDER MODELS. IT IS THE MIDDLE OF THE THREE HOSE ASSEMBLIES FOUND ALONG THE TOP OF THE POWER UNIT.

NOTE: ALL THREAD SURFACES EXCEPT THOSE WITH SWIVEL TUBE FITTINGS MUST BE SEALED WITH TEFLON TAPE.

- b. Run the NEW hose assembly (P.N. 527-667) from the low pressure pump fitting on the power unit to the 90° elbow on the "IN" port of the control valve. (SEE FIGURE 12)
- c. Run one of the 35 foot long hose assemblies (P.N. 527-774) from the "TOP" 1/2" port on the control valve along the underside of the first six conveyor stands through the hose clamps and connect it to the #10 tube position which is furthest from the check valve on the hydraulic cylinder.
- d. Run the second 35 foot length of hose from the "BOTTOM" port on the control valve (WITH NEEDLE VALVE) to the ½" NPT to #10 tube-straight connector which is attached directly to the check valve. (SEE FIGURES 10 & 12)



7/79

- e. From the middle stem of the "tee", a 28" lg. hose line (P.N. 527-775) runs to a $\frac{1}{2}$ " NPT to a #10 tube fitting- straight connector attached to the top of the cylinder.

K. THE CONVEYOR RAMP: (ACCESSORY ITEM; P.N. 530-463)

Attach the right and left hand ramp angles to the last section of the gravity conveyor. (SEE FIGURE 11) Use $\frac{1}{2}$ "-13 NC hex head cap screws X 3 1/4" lg. (P.N. 529-278) to be inserted through the bottom of the angles and through spacer blocks which are placed between the ramp angles and the base of the conveyor frames. Secure with lockwashers (P.N. 529-432) and hex nuts (P.N. 529-587).

Place the ramp on the two mounting angles with an additional two spacer blocks between the angle and the ramp. Use four (4) sets of fasteners to secure the ramp to the angles.

Locking tabs are provided at the bottom end of the ramp for securing the ramp base to the shop floor.



SHOE LIFTING DEVICE

MODEL S L D FRAME TO POWER CONVEYOR CONNECTION

7/79

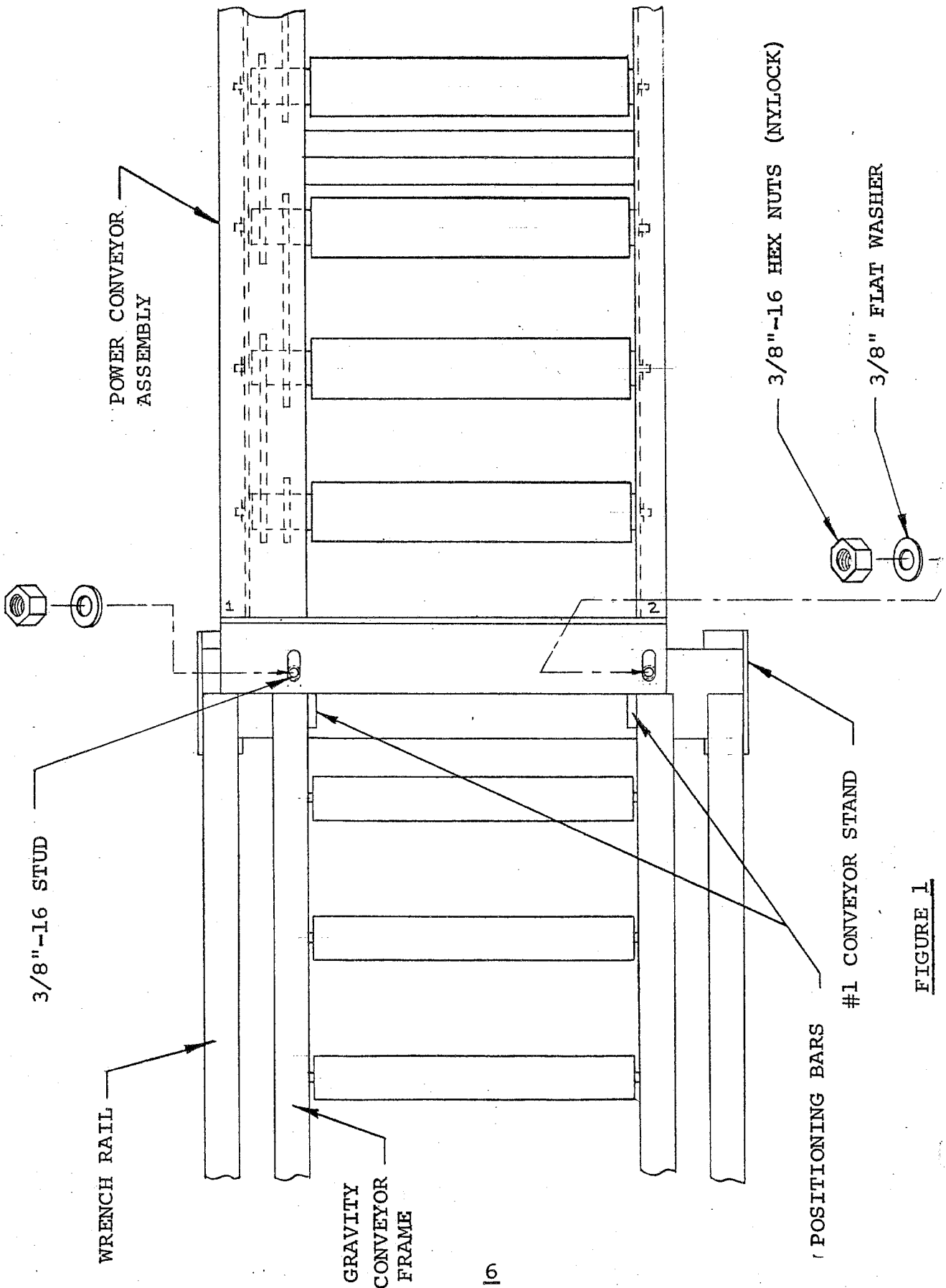


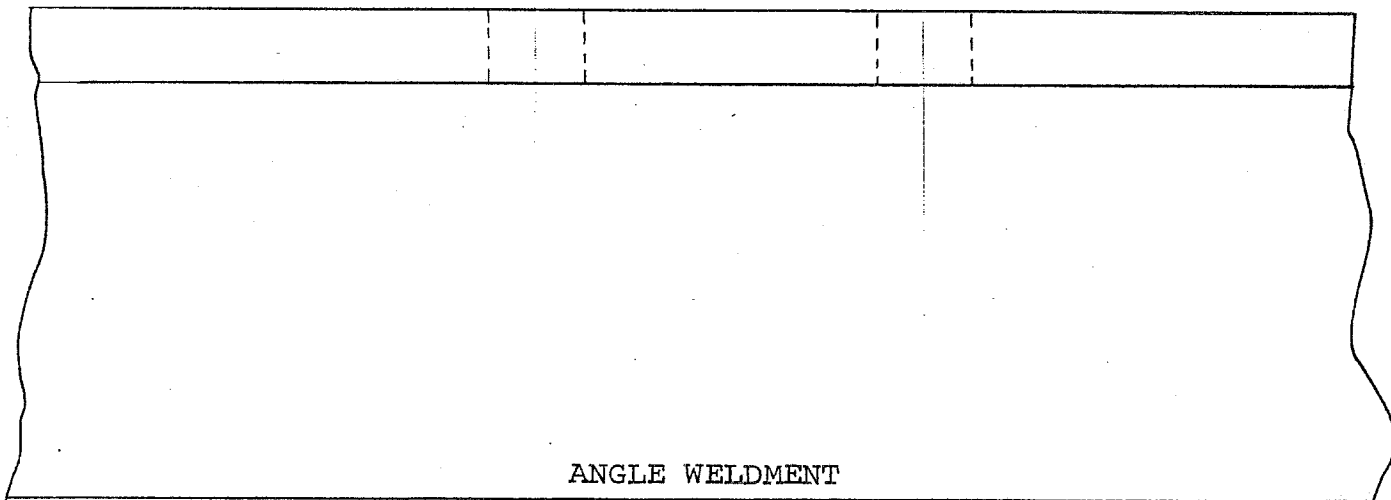
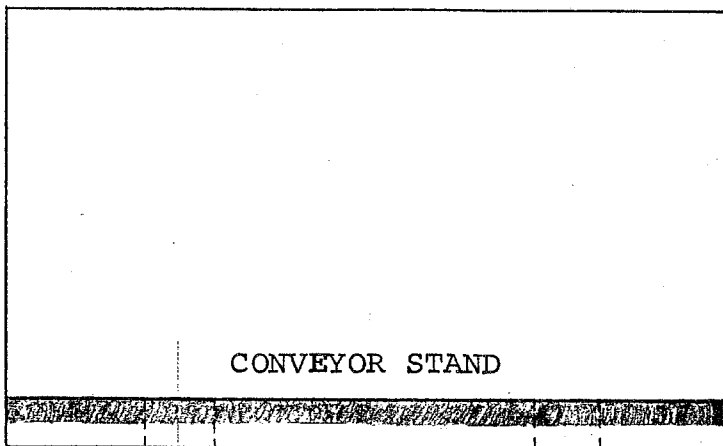
FIGURE 1

SHOE LIFTING DEVICE

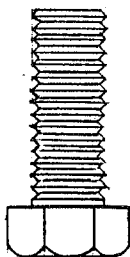
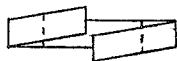


7/79

SIDE VIEW
(ANGLE WELDMENT MOUNTING)



3/8"-16 NC HEX HEAD
CAP SCREW X 1" LG.



3/8" SPLIT
LOCKWASHER

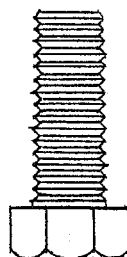


FIGURE 2



SHOE LIFTING DEVICE
LOWER ANGLE JOINT

7/79

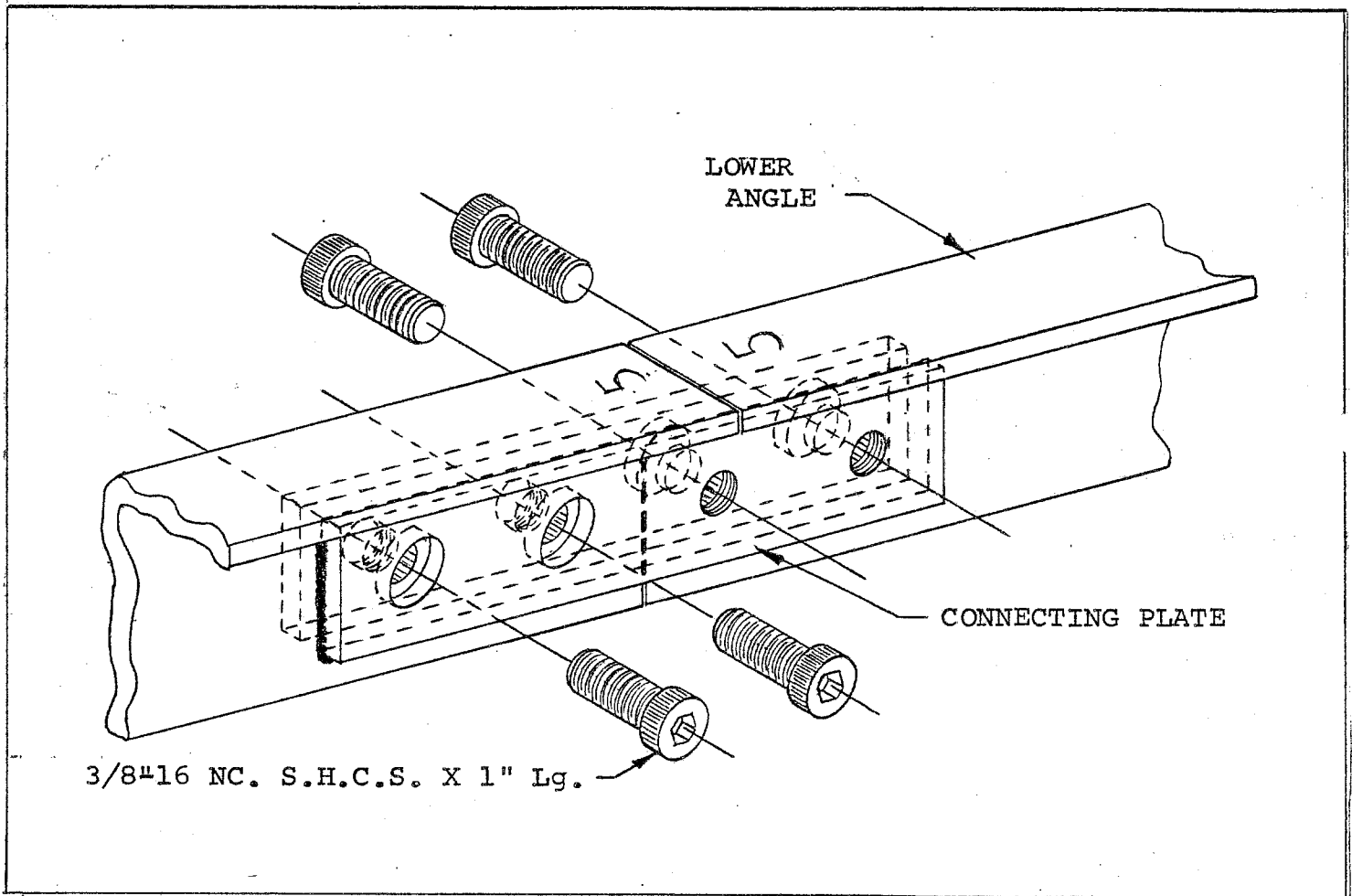


FIGURE 3

SHOE LIFTING DEVICE
WRENCH RAIL JOINT



7/79

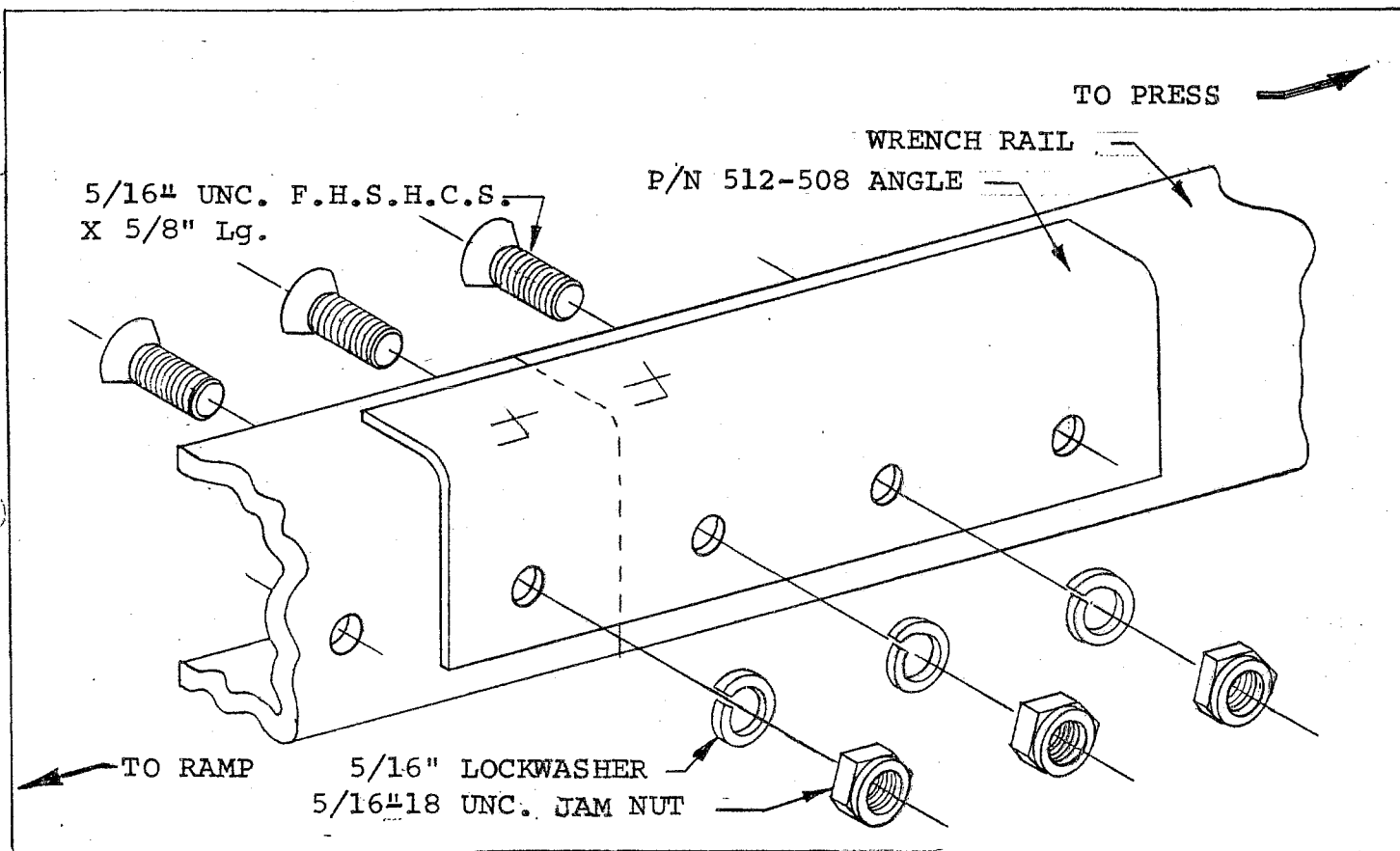


FIGURE 4



SHOE LIFTING DEVICE
GRAVITY CONVEYOR JOINT

7/79

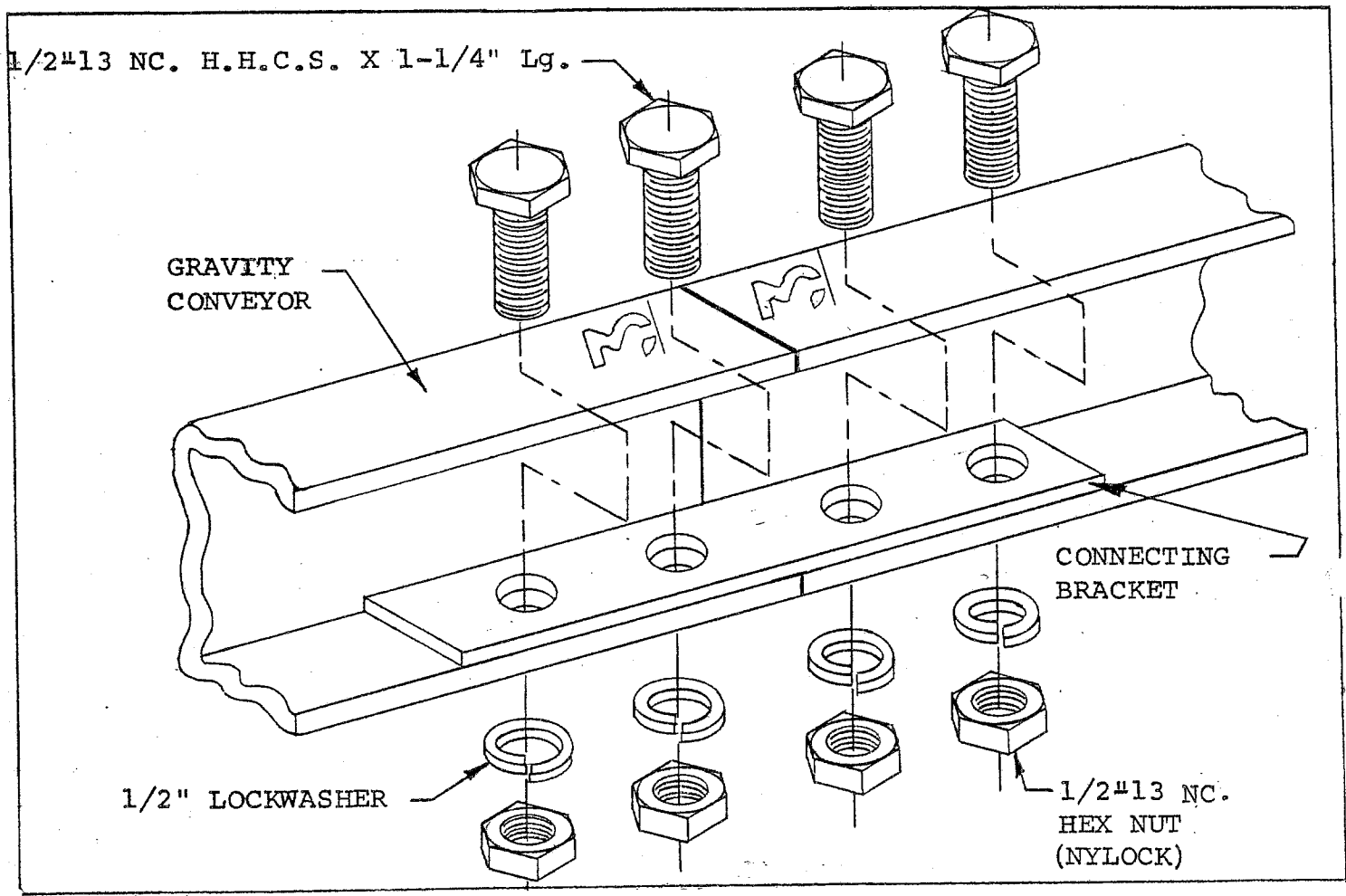


FIGURE 5

SHOE LIFTING DEVICE
CROSS SECTION VIEW FOR ASSEMBLY



7/79

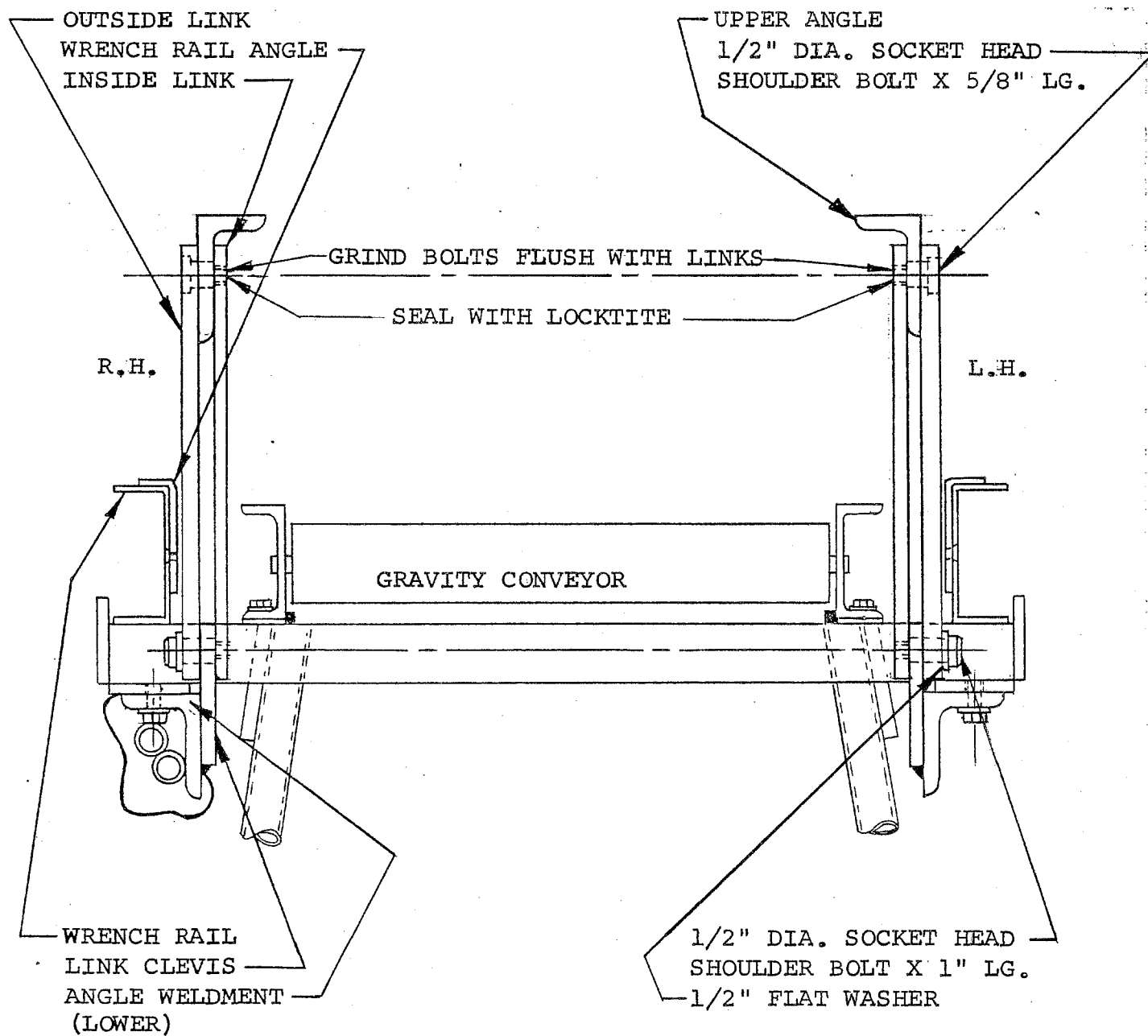


FIGURE 6



SHOE LIFTING DEVICE
UPPER ANGLE JOINT

7/79

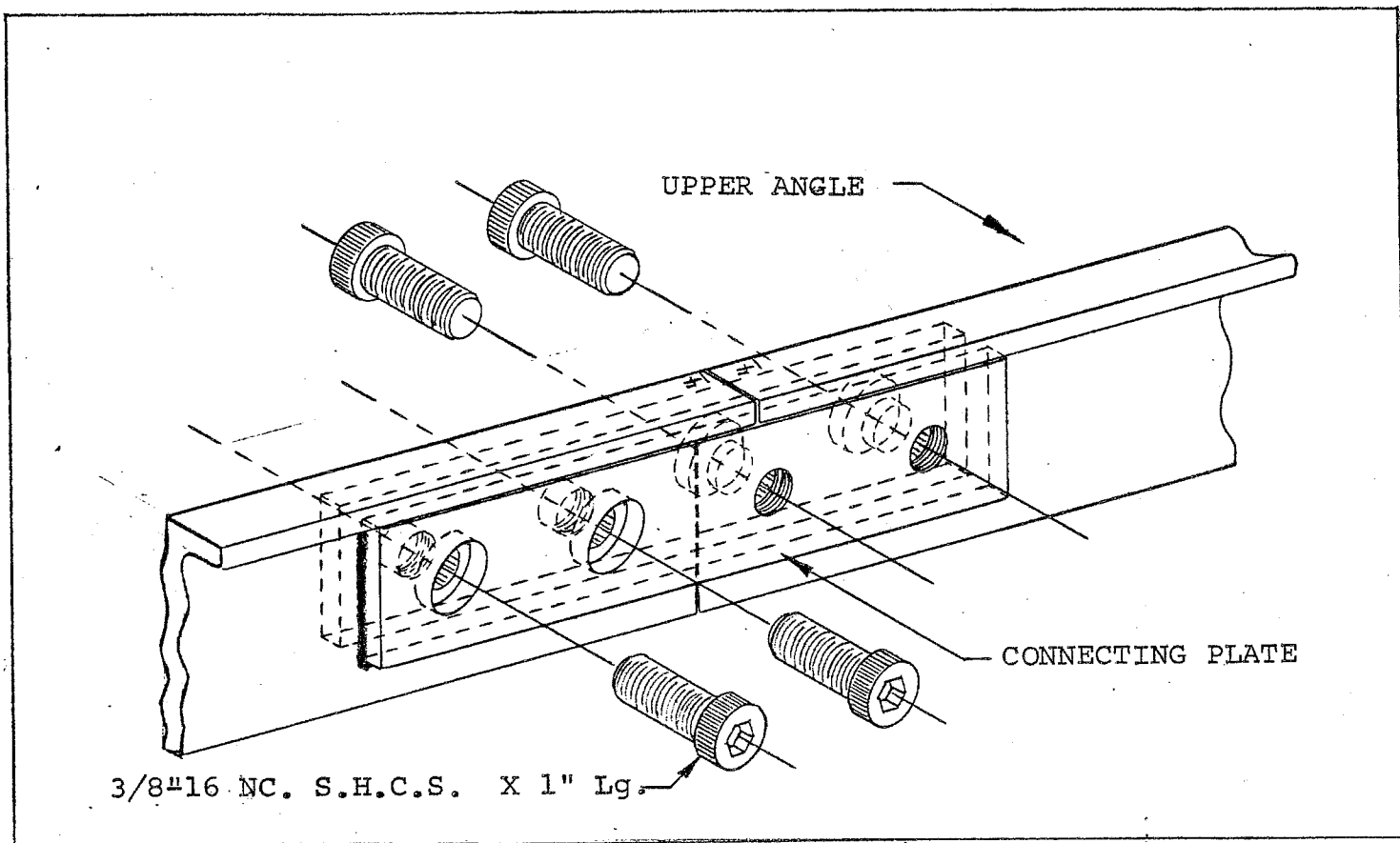


FIGURE 7

SHOE LIFTING DEVICE
CROSS SECTION VIEW: LIFTING CHANNEL



7/79

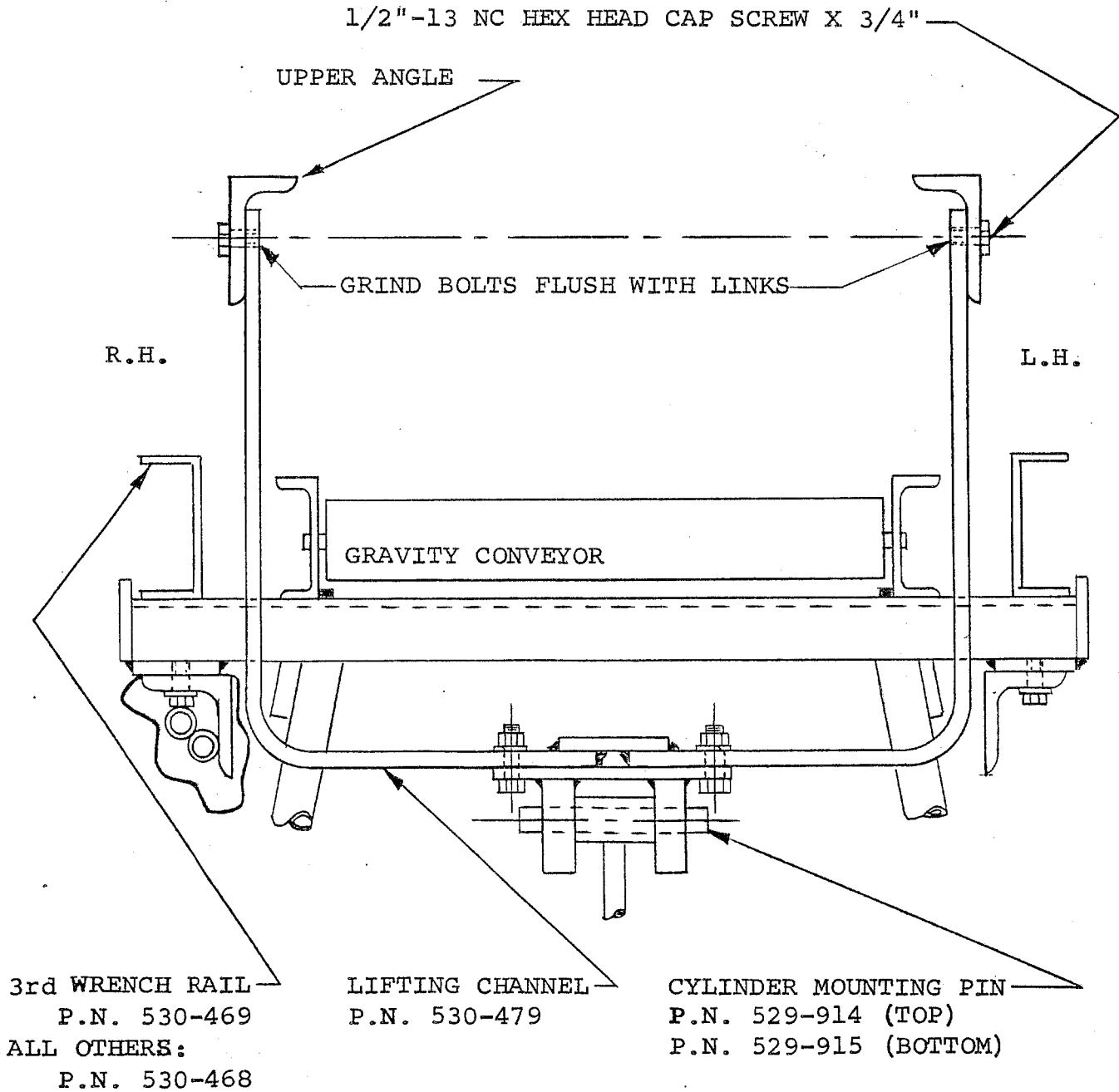


FIGURE 8



CONTROL VALVE
HYDRAULIC CONNECTIONS

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1.		3/8"-16 HEX HEAD CAP SCREW X 3/4" LG.	4
2.		3/8" SPLIT LOCKWASHER	4
3.	512-803	VALVE BASE, 4" X 4" CHANNEL	1
4.	531-178	CONTROL VALVE	1
5.	527-318	3/4" NPT TO 3/4" TUBE, 90° ELBOW	2
6.	527-772	1/2" NPT TO 1/2" HEX NIPPLE	1
7.	527-667	HOSE LINE TO POWER UNIT RESERVOIR	1
8.	527-774	HOSE LINE TO TOP PORT OF CHECK VALVE	1
9.	527-317	#10 CTX TO 1/2" NPT-S 90° MALE ELBOW	2
10.	527-774	HOSE LINE TO LOWER PORT ON CHECK VALVE	1
11.	531-179	NEEDLE VALVE	1
12.	527-665	HOSE LINE TO GRESEN VALVE ON TRACK PRESS	1

ADJUSTMENT OF THE FLUID CONTROL NEEDLE VALVE:

THE NEEDLE VALVE (P.N. 531-179) MUST BE ADJUSTED TO GIVE THE LIFTING CYLINDER A SLOW BUT STEADY RATE OF FLUID FLOW. START WITH THE VALVE COMPLETELY OPEN. CLOSE IT SLOWLY (WHILE OPERATING THE MAIN CONTROL VALVE) UNTIL A SAFE AND EFFICIENT LIFTING SPEED IS DEVELOPED.



7/79

CONTROL VALVE

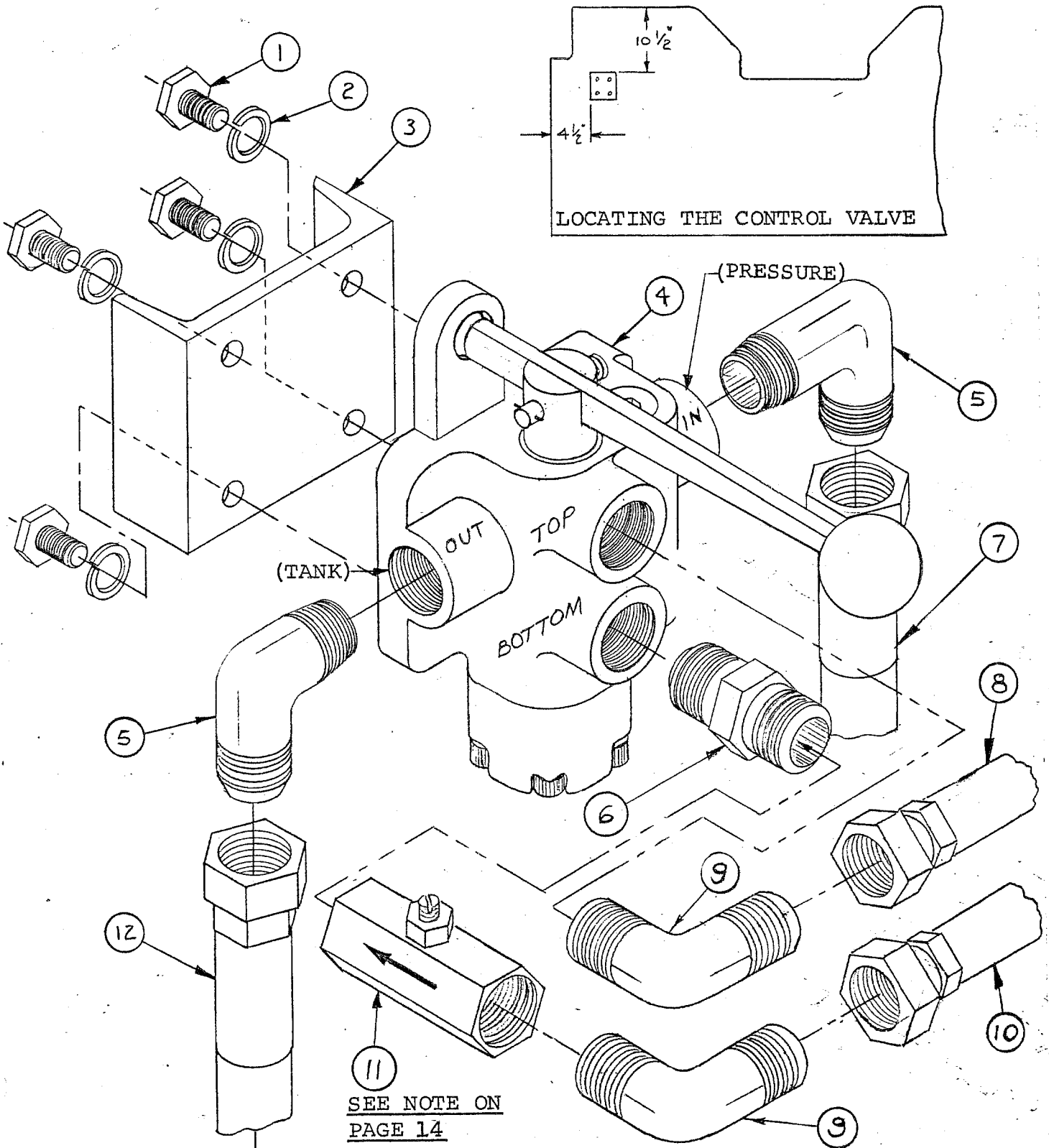


FIGURE 9

CYLINDER END: COMPONENTS

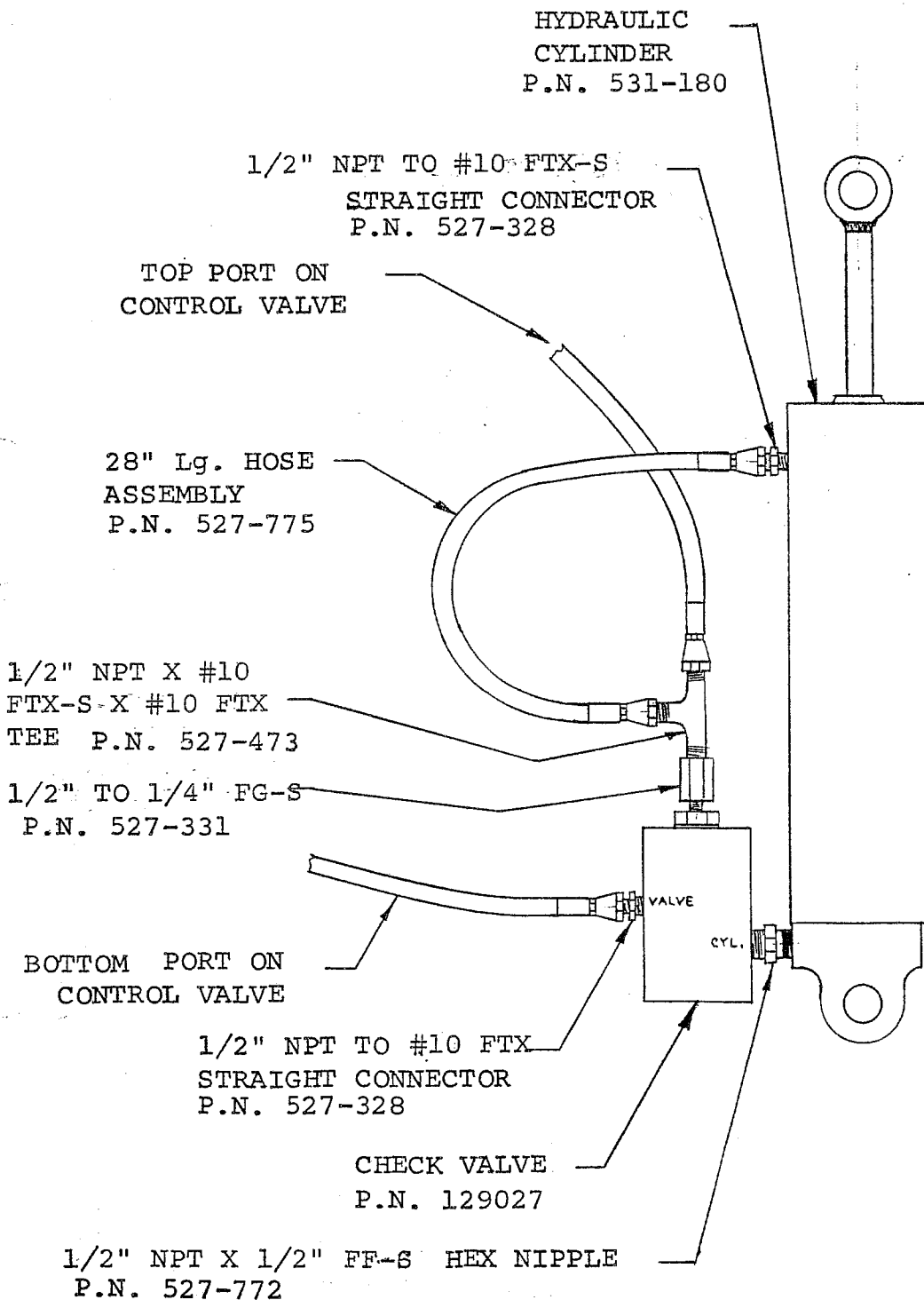


FIGURE 10

SHOE LIFTING DEVICE
 CONVEYOR RAMP ASSEMBLY
 P.N. 530-463

(OPTIONAL ITEM)



7/79

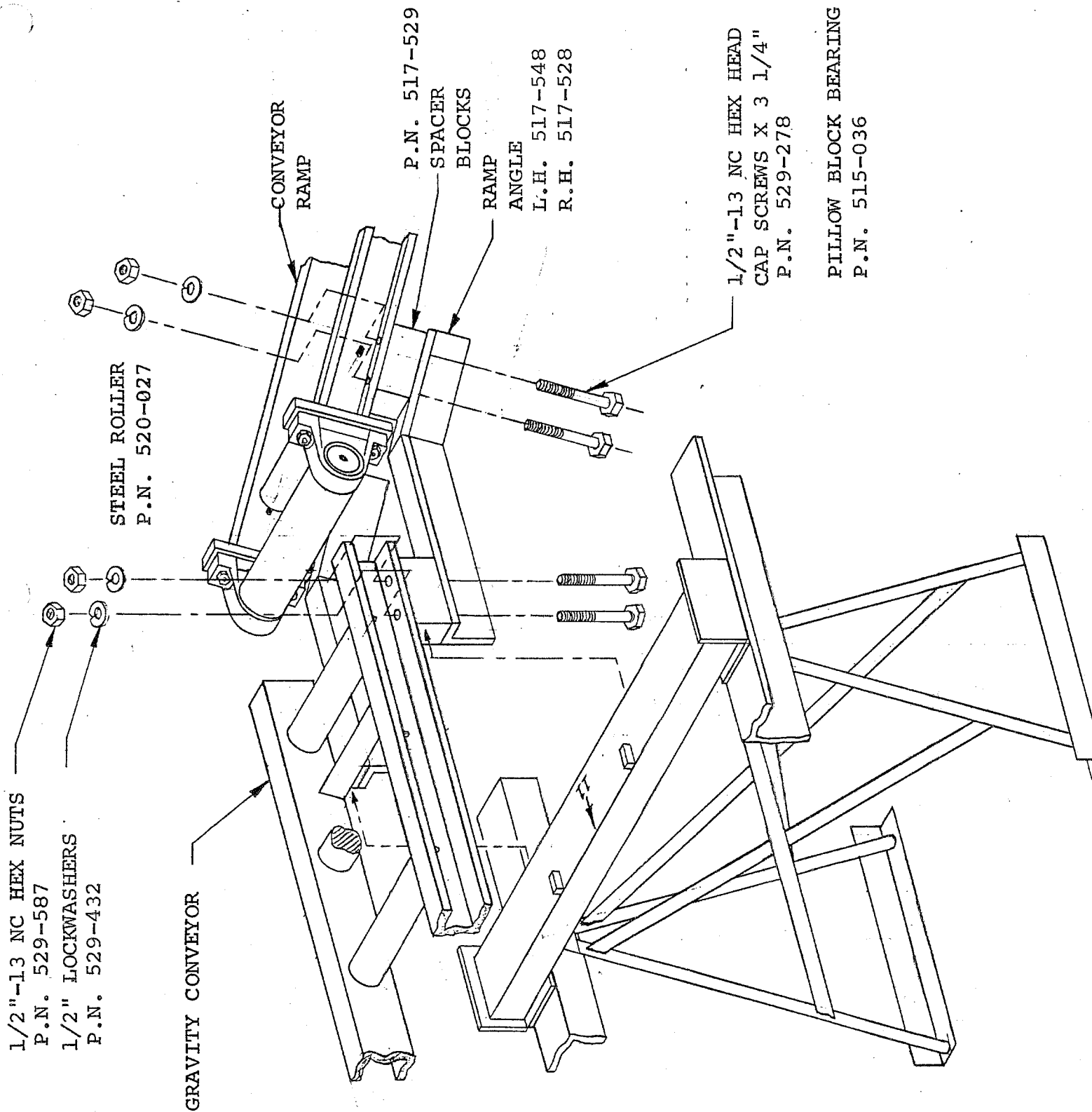


FIGURE 11

SHOE LIFTING DEVICE
HOSE LINE CONNECTIONS

7/79

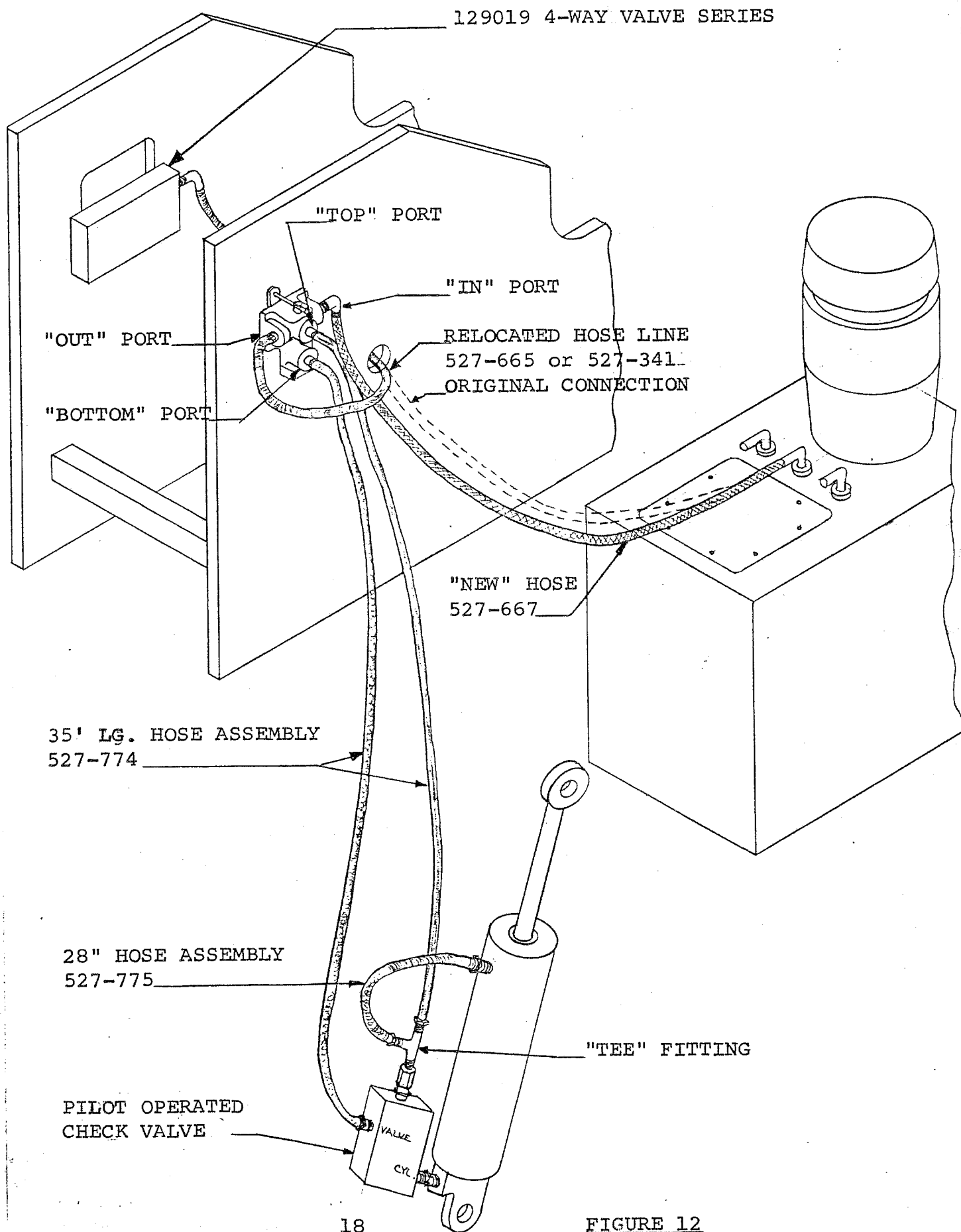


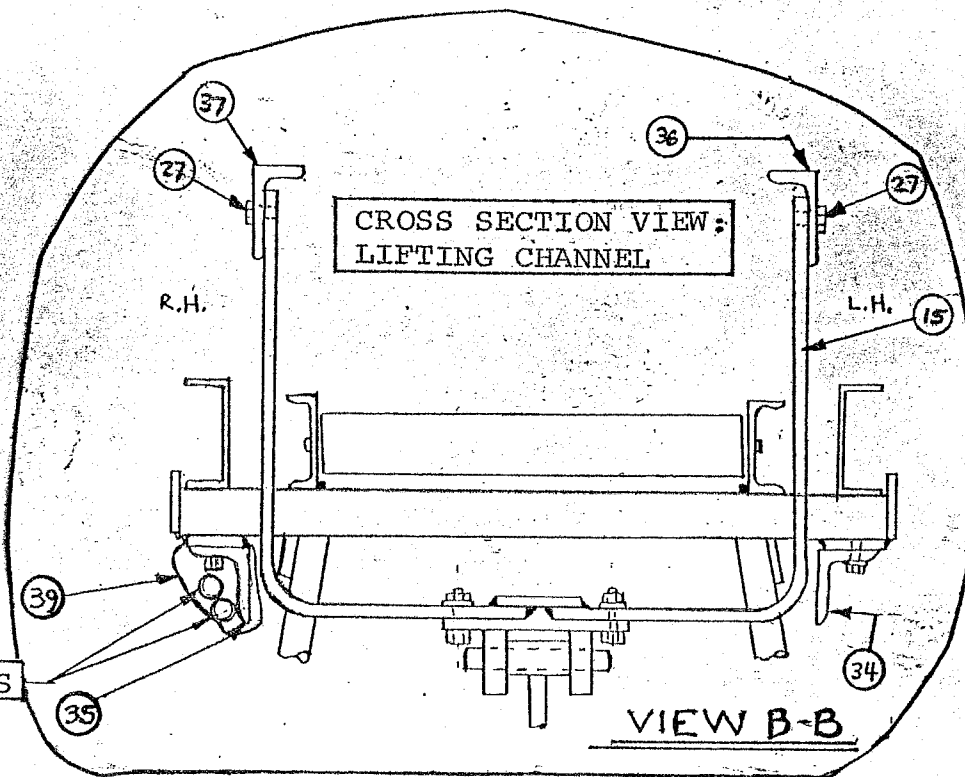
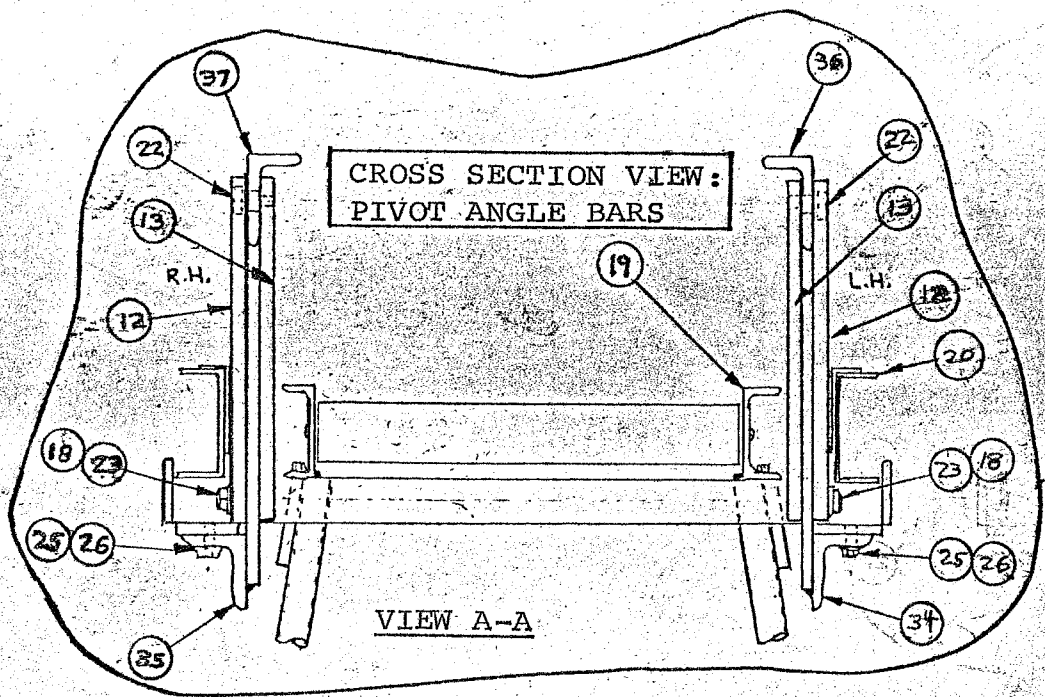
FIGURE 12



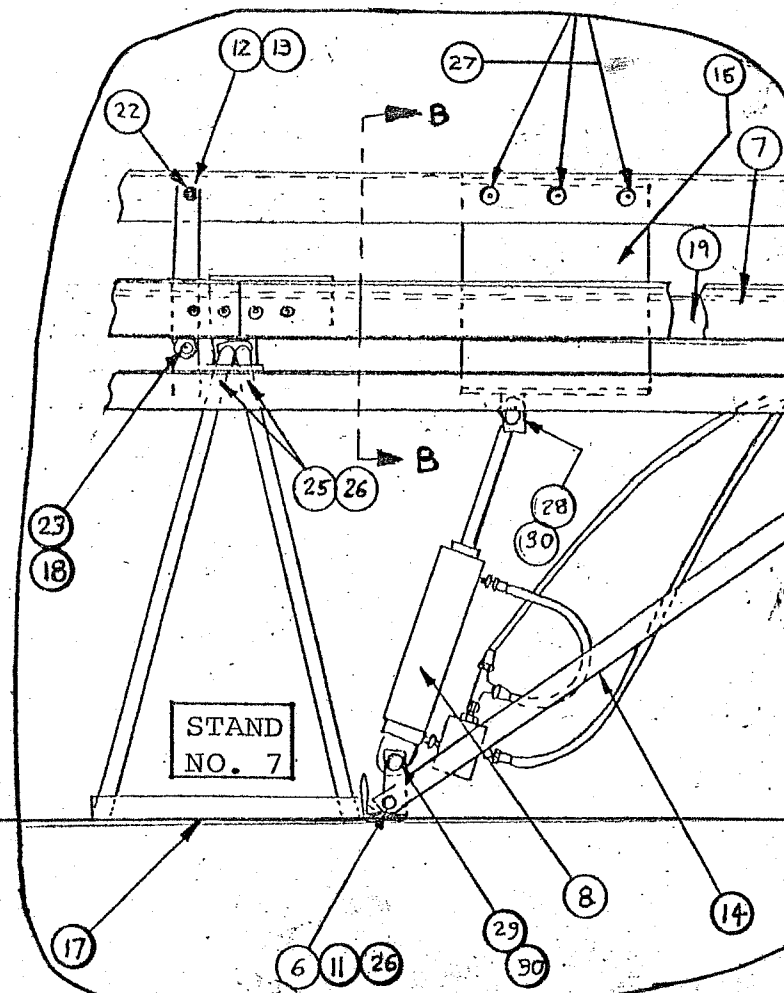
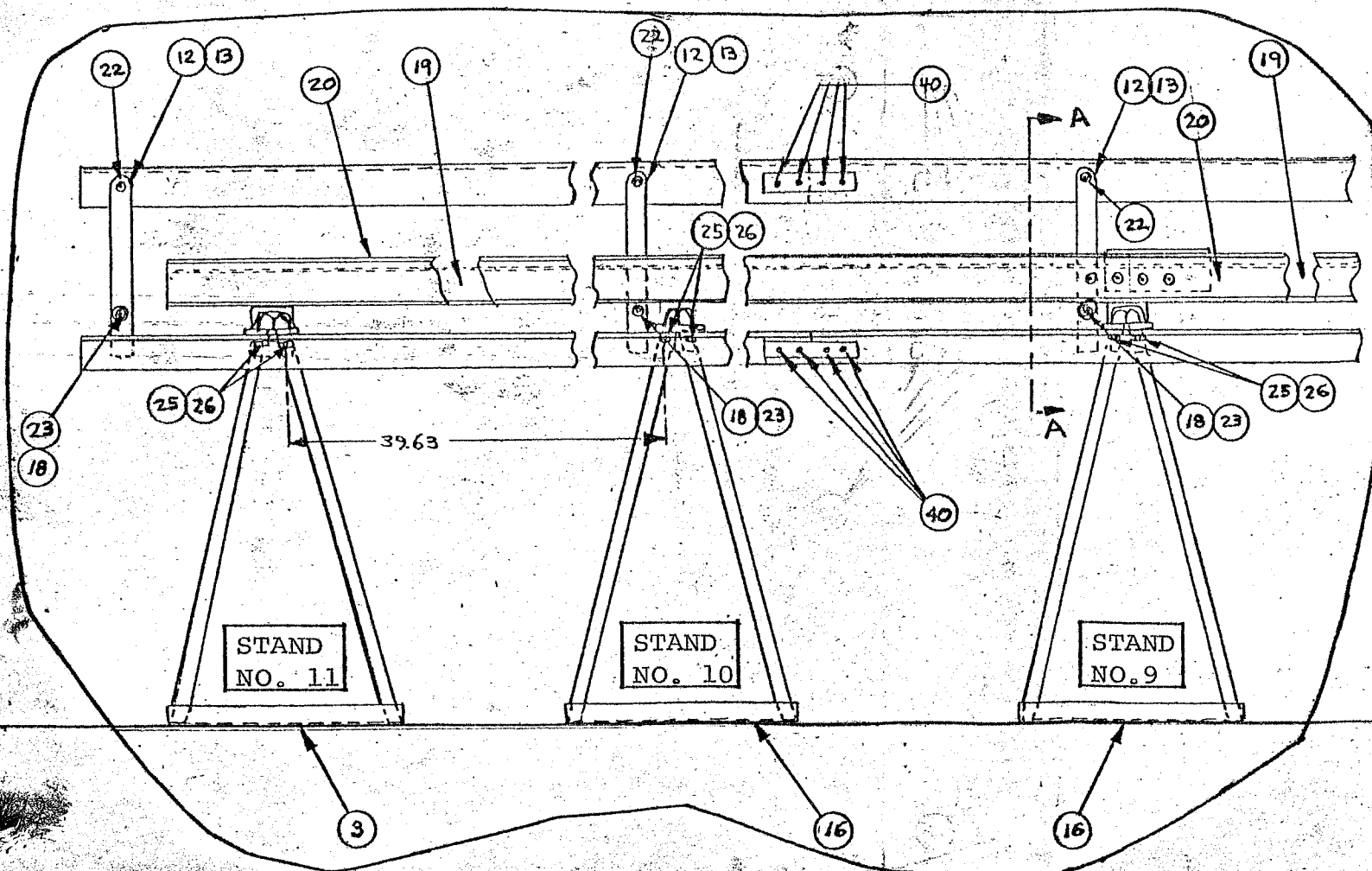
8/79

<u>ITEM</u>	<u>PART NO.</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	529-925	2	FLAT WASHER, 3/8"
2		2	HEX NUT, NYLOCK, 3/8"-16 NC
3	530-475	1	SLD CONVEYOR STAND NO. 11
4	530-474	1	SLD CONVEYOR STAND NO. 1
5	525-242	1	LOCKTITE
6	529-100	2	3/8"-16 NC HEX HEAD CAP SCREW X 1 1/4" LG.
7	530-469	1	WRENCH RAIL (3rd)
8	530-470	1	SLD HYDRAULIC SYSTEM
9	529-333	32	1/2"-13 NC HEX NUT
10	529-734	32	1/2"-13 NC HEX HEAD CAP SCREW
11	529-128	2	3/8"-16 NC HEX NUT
12	512-790	22	OUTSIDE LINK
13	512-791	22	INSIDE LINK
14	512-792	2	CONVEYOR STAND BRACE
15	530-479	1	PIVOT CHANNEL ASSEMBLY
16	530-471	8	CONVEYOR STANDS: NO. 2-THROUGH 6 AND 8 THROUGH 10
17	530-472	1	CONVEYOR STAND NO. 7
18	529-830	22	1/2" SAE WASHER
19	530-473	5	GRAVITY CONVEYOR ASSEMBLY
20	530-468	4	WRENCH RAILS (1st, 2nd, 4th, 5th)
21	512-603	8	CONNECTING BRACKET
22	529-444	22	1/2" DIA. SOCKET HEAD SHOULDER BOLT X 5/8" LG.
23	529-006	22	1/2" DIA. SOCKET HEAD SHOULDER BOLT X 1" LG.
24	529-060	24	5/16"-18 NC JAM NUT
25	529-147	46	3/8"-16 NC HEX HEAD CAP SCREW X 1" LG.
26	529-004	48	3/8" SPLIT LOCK WASHER
27	529-067	6	1/2"-13 NC HEX HEAD CAP SCREW X 3/4" LG.
28	529-914	1	CYLINDER MOUNTING PIN (TOP)
29	529-915	1	CYLINDER MOUNTING PIN (BOTTOM)
30	529-920	4	PIN CLIP
31	529-432	32	1/2" SPLIT LOCK WASHER
32	529-393	24	5/16" SPLIT LOCKWASHER
33	529-109	24	5/16"-18 NC FLAT HEAD SOCKET CAP SCREW X 5/8" LG.
34	517-541	1	ANGLE WELDMENT & ASSEMBLY (L.H.) LOWER
35	517-542	1	ANGLE WELDMENT & ASSEMBLY (R.H.) LOWER
36	517-543	1	ANGLE WELDMENT & ASSEMBLY (L.H.) UPPER
37	517-544	1	ANGLE WELDMENT & ASSEMBLY (R.H.) UPPER
38	512-508	8	ANGLE
39	525-254	15	CABLE TIE (HOSE TIE)
40	529-219	64	3/8"-16 NC SOCKET HEAD CAP SCREW X 1" LG.

MODEL S L D
 SHOE LIFTING DEVICE (ACCESSORY)
 P.N. 532-168

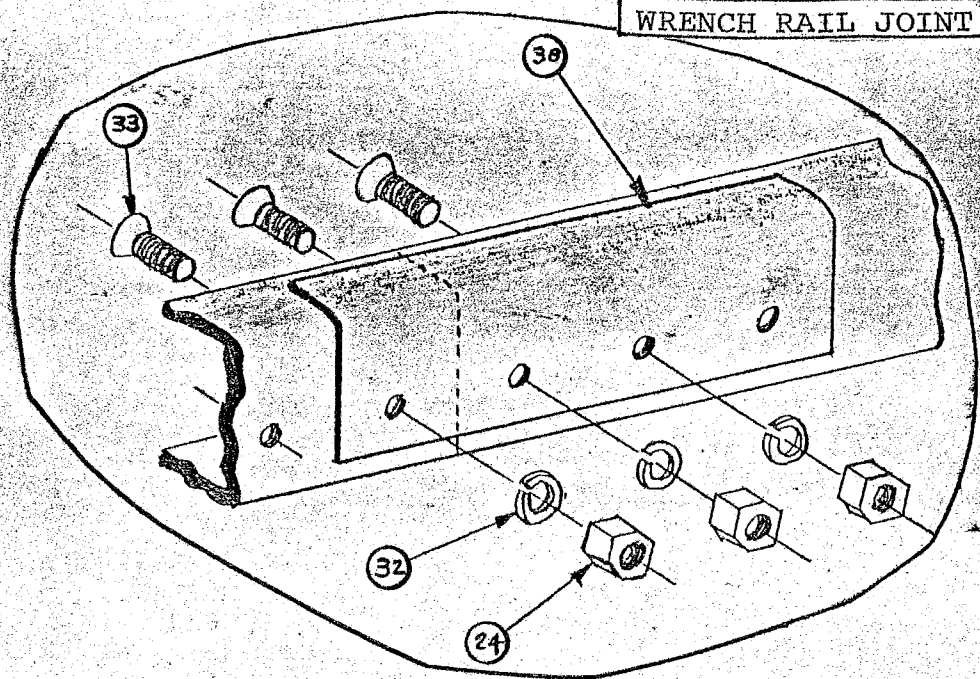


HYDRAULIC HOSES



MODEL S L D
SHOE LIFTING DEVICE (ACCESSORY)
P.N. 532-168

WRENCH RAIL JOINT



GRAVITY CONVEYOR JOINT

