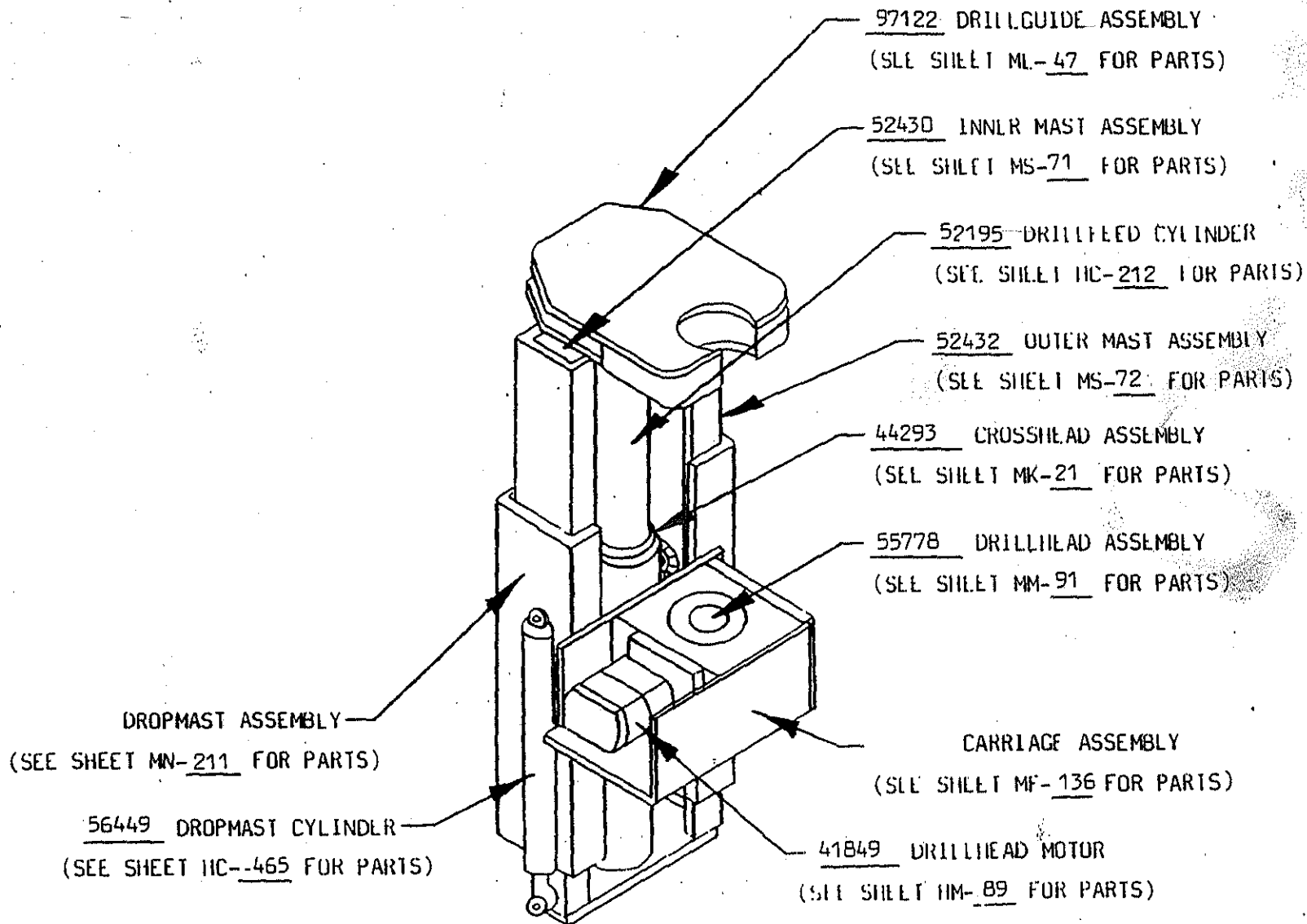


Drill
Unit



0

0

0

INDEX FOR DRILL UNIT

<u>DESCRIPTION</u>	<u>PART NO.</u>	<u>SHEET NO.</u>	<u>NO. REQ'd</u>
DRILL FEED CYLINDER ASSEMBLY	52195	HC-212	2
BOOM LIFT CYLINDER ASSEMBLY	56409	HC-314	2
DRILLGUIDE CYLINDER ASSEMBLY	54056	HC-387	2
DROPMAST CYLINDER ASSEMBLY	56449	HC-465	2
FORE-AFT TILT CYLINDER ASSEMBLY	56584	HC-465	2
MAST TILT CYLINDER ASSEMBLY	56828	HC-469	2
BOOM EXTEND CYLINDER ASSEMBLY	56796	HC-478	2
BOOM SWING CYLINDER ASSEMBLY	56796	HC-478	2
DRILLHEAD MOTOR ASSEMBLY	41849	HM-89	2
LEVELING LINK ASSEMBLY	178123	MB-382	4
BOOM PIVOT ASSEMBLY		MB-401C	2
BOOM PIVOT ARRANGEMENT		MB-415A & B	2
BOOM MOUNT ASSEMBLY		MB-450	2
OPERATORS PLATFORM ARRANGEMENT		MB-451	2
BOOM ASSEMBLY	188343	MB-452	2
DRILLHEAD CARRIAGE ASSEMBLY		MF-136	2
CROSSHEAD ASSEMBLY	44293	MK-21	4
HYDRAULIC DRILLGUIDE ASSEMBLY	97122	ML-47	2
DRILLHEAD ASSEMBLY	55778	MM-91	2
DROPMAST TILT & PIVOT ASSEMBLY		MN-211	2
INNER MAST ASSEMBLY	52430	MS-71	2
OUTER MAST ASSEMBLY	52432	MS-72	2

INDEX FOR DRILL UNIT

<u>DESCRIPTION</u>	<u>PART NO.</u>	<u>SHEET NO.</u>	<u>NO. REQ'D</u>
DRILLHEAD GUARD	95713	MY-316	2
CLAMP ASSEMBLY	195150	MY-698	2
DOCK BUMPER ASSEMBLY	53652	MY-704	2
GROUPING PLATE ASSEMBLY	206696	MY-790A	4
GROUPING PLATE ASSEMBLY	206697	MY-791A	2

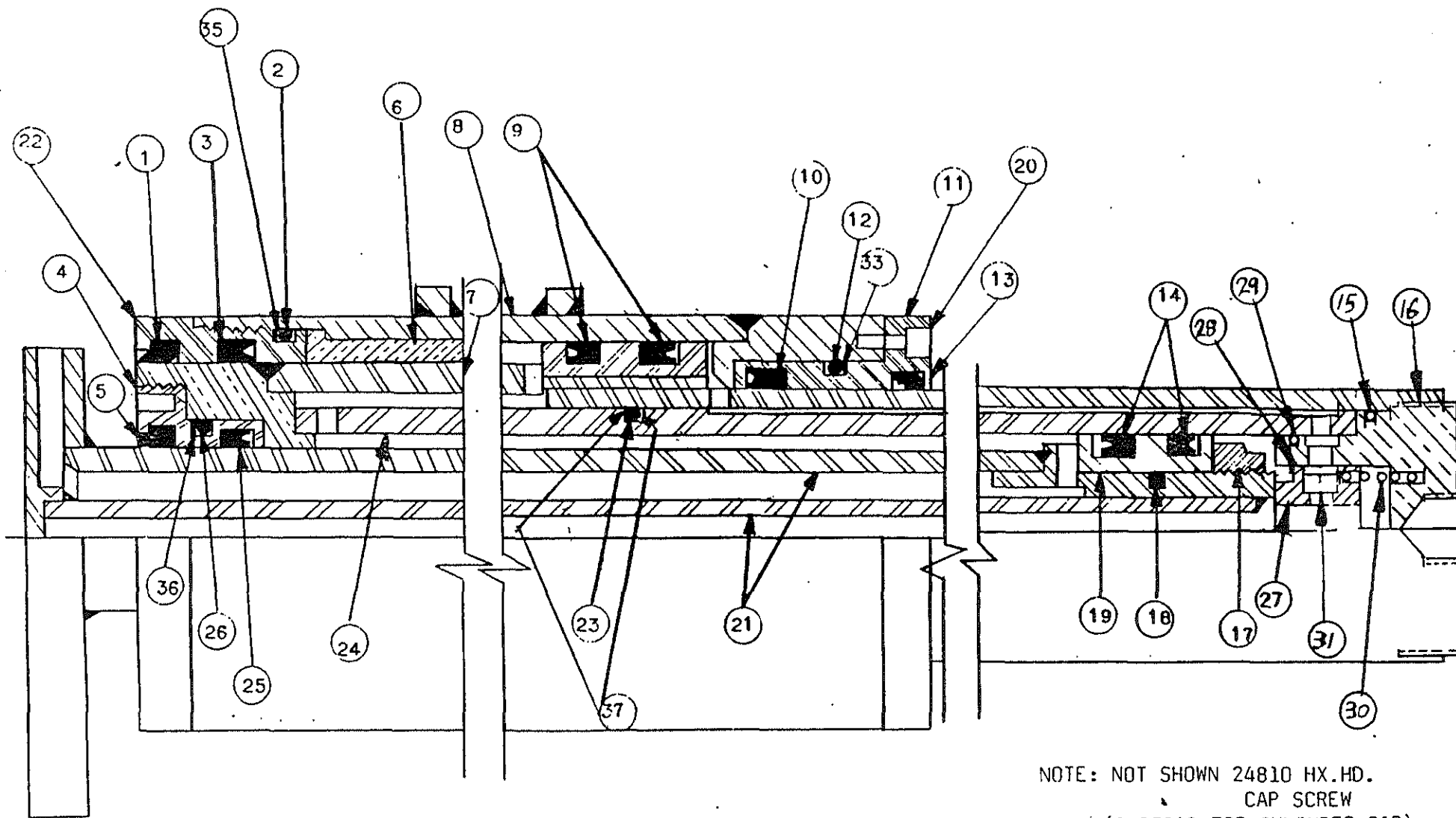
SHEET NO. HC-212	TITLE Titan Equalized Cylinder Ass'y	DATE 10-7-68	R	J. H. FLETCHER & CO. 707 WEST 7TH STREET HUNTINGTON, W. VA.
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ITEM NO.	PART NO.	DESCRIPTION	NO. REQ'D	ITEM NO.	PART NO.	DESCRIPTION	NO. REQ'D
1.	22318	Wiper	1	19.	31921	Piston	1
2.	21394	"O" Ring	1	20.	20186	Soc. HD. Cap	8
3.	22314	U Cup	1	21.	See Below	Inner Rod Ass'y	1
4.	31938	Gland	1	22.	31937	PACKING GLAND	1
5.	22317	Wiper	1	23.	21393	"O" Ring	1
6.	21555	SPACER	1	24.	See Below	Sleeve	1
7.	See Below	Intermediate Tube	1	25.	22315	U Cup	1
8.	See Below	Primary Shell	1	26.	407	"O" Ring	1
9.	22314	U Cup	2	27.	170549	Piston	1
10.	22256	U Cup	1	28.	24043	Snap Ring	1
11.	31936	Gland	1	29.	403	"O" Ring	1
12.	414	"O" Ring	1	30.	22941	Spring	1
13.	22319	Wiper	1	31.	23048	Check Valve	4
14.	22271	U Cup	2				
15.	21393	"O" Ring	1	33.	21405	Back Up Ring	1
16.	170550	Cap	1	34.	24810	HX. HD. Cap	1
17.	20789	Red Head Nut	1	35.	21403	Back Up Ring	1
18.	399	"O" Ring	1	36.	21404	Back Up Ring	1
				37.	21395	Back Up Ring	2

CYLINDER ASS'Y	ITEM -7	ITEM-8	ITEM-21	ITEM-24
52195	42250	42254	42262	42258
52196	42251	42255	42263	42259
52197	42252	42256	42264	42260
52198	42253	42257	42265	42261
52199	43391	42561	42563	42562
52200	42392			
52502	42393	42394	42396	42395
52189	42250	42254	42262	42258
52190	42251	42255	42263	42259
52191	42252	42256	42264	42260
52192	42253	42257	42265	42261
52193	42391	42561	42563	42562
52194				
52501	42393	42394	42396	42395
54265	43391	42561	42563	42562
54239	42391	42561	42563	42562
54175	42391	42561	42563	42562

NOTE: 22339 PACKING KIT

NOTE: INTERNAL CHECK ASSEMBLY
170551 CONSIST OF THE FOLLOWING
ITEMS.
#28 24043 SNAP RING
#30 22941 SPRING
#31 23048 CHECK VALVE
#16 170550 CAP
#27 170549 PISTON
NOTE #16 & 27 ARE SOLD AS UNIT ONLY
ORDER #178842 ASSEMBLY



NOTE: NOT SHOWN 24810 HX.HD.
CAP SCREW
(1 REQ'D FOR CYLINDER CAP)

DRILL FEED CYLINDER

SHEET NO.

HC-212

TITLE

TITAN EQUALIZED CYLINDER ASSEMBLY

DATE

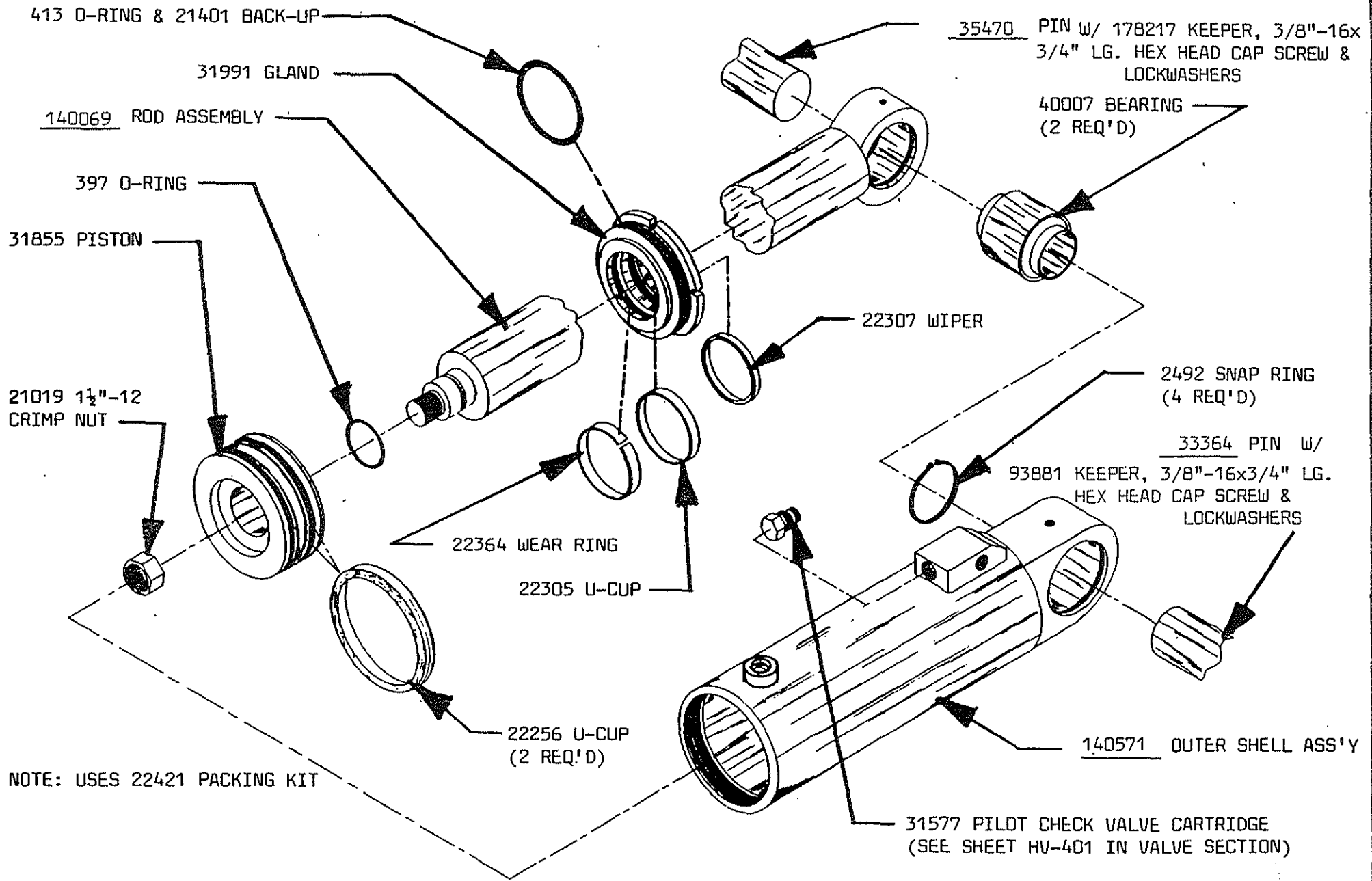
10-7-68

R

J. M. FLETCHER & CO.

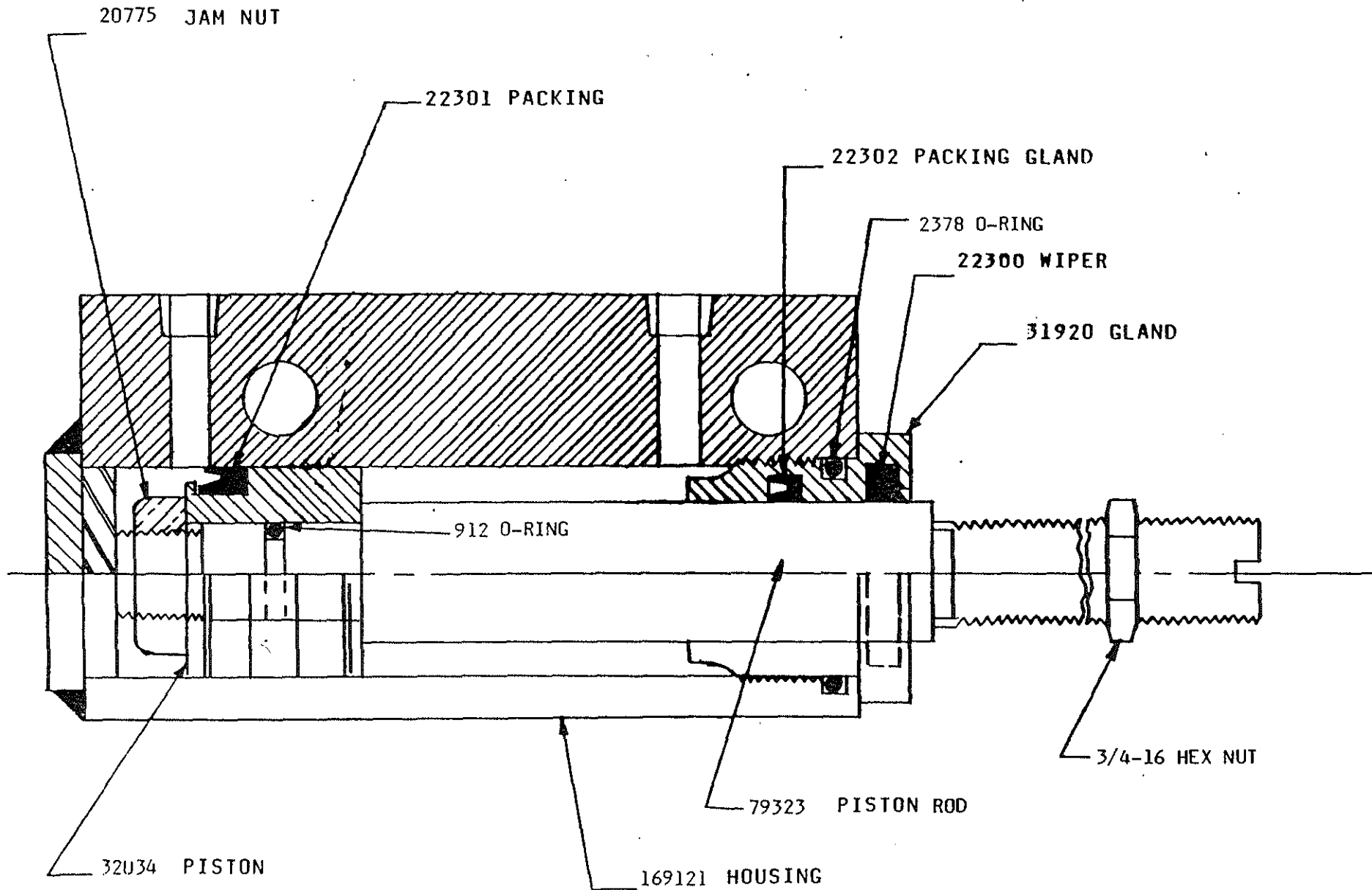
787 WEST 7TH STREET

HUNTINGTON, W. VA.



NOTE: USES 22421 PACKING KIT

BOOM LIFT CYLINDER



DRILL GUIDE CYLINDER

SHEET NO.

TITLE

DATE

R

J. N. FLETCHER & CO.

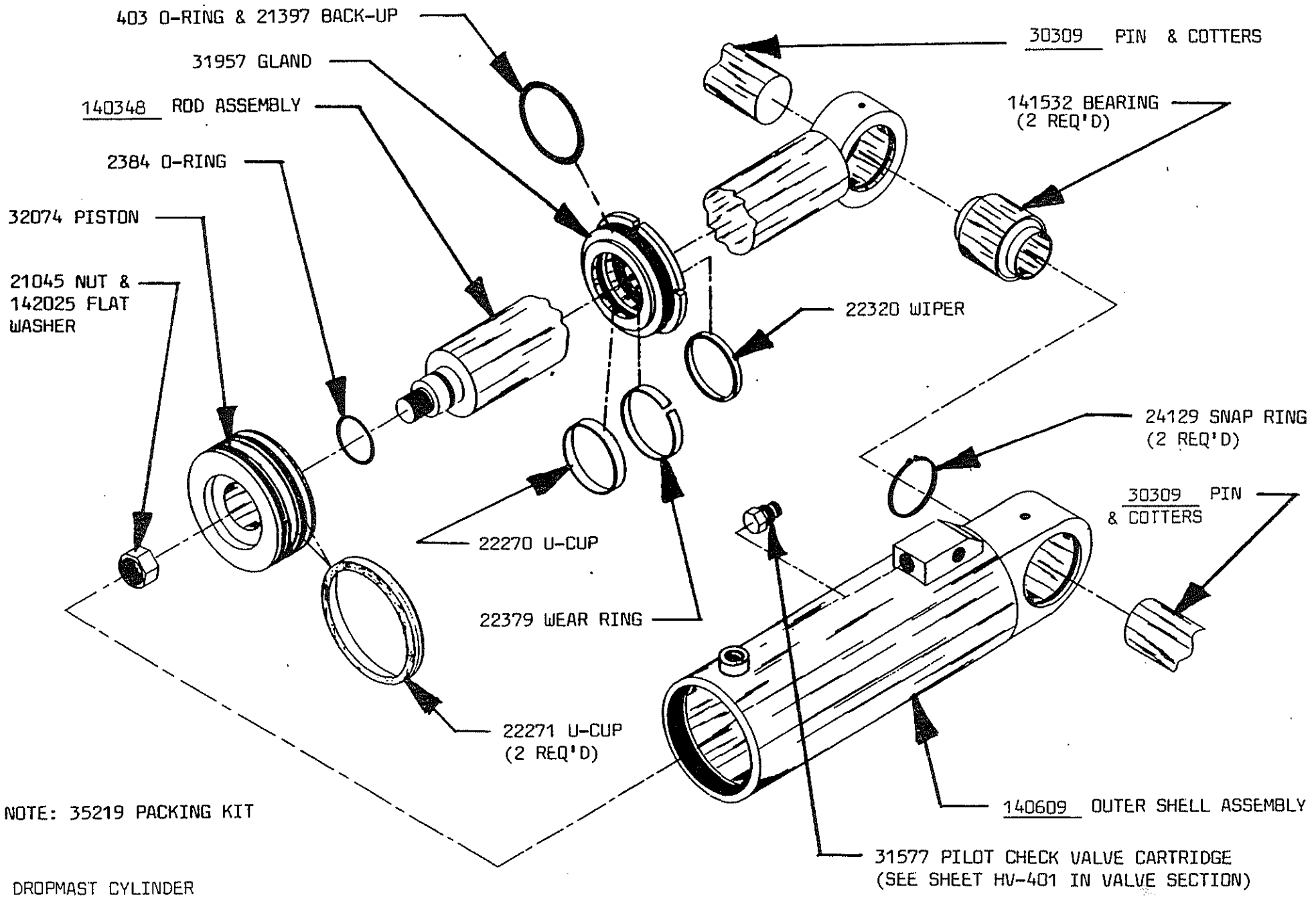
HC-387

54056 ACTUATING HYDRAULIC CYLINDER

9/5/78

787 WEST 7TH STREET

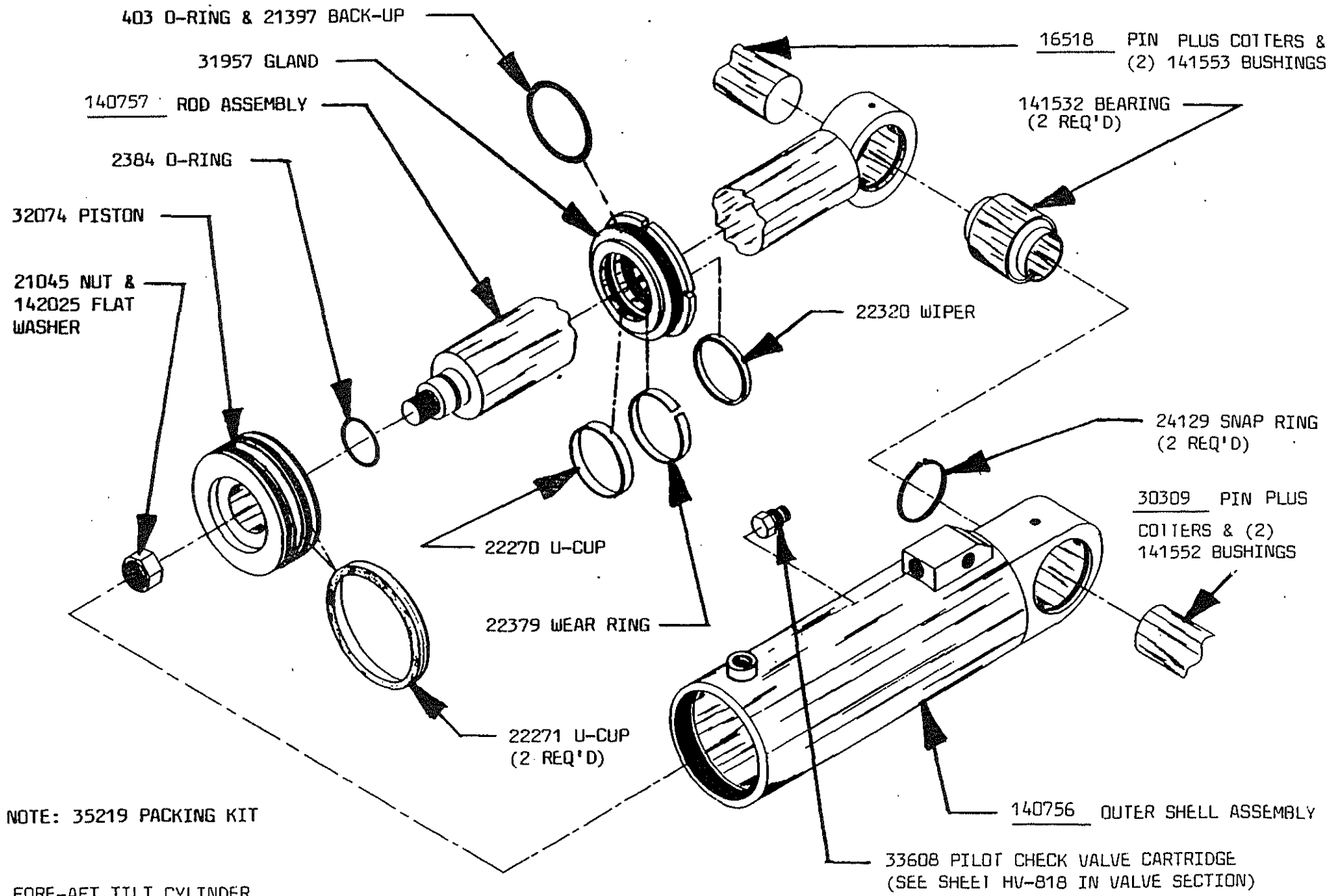
MINNAPOLIS, W. VA.



NOTE: 35219 PACKING KIT

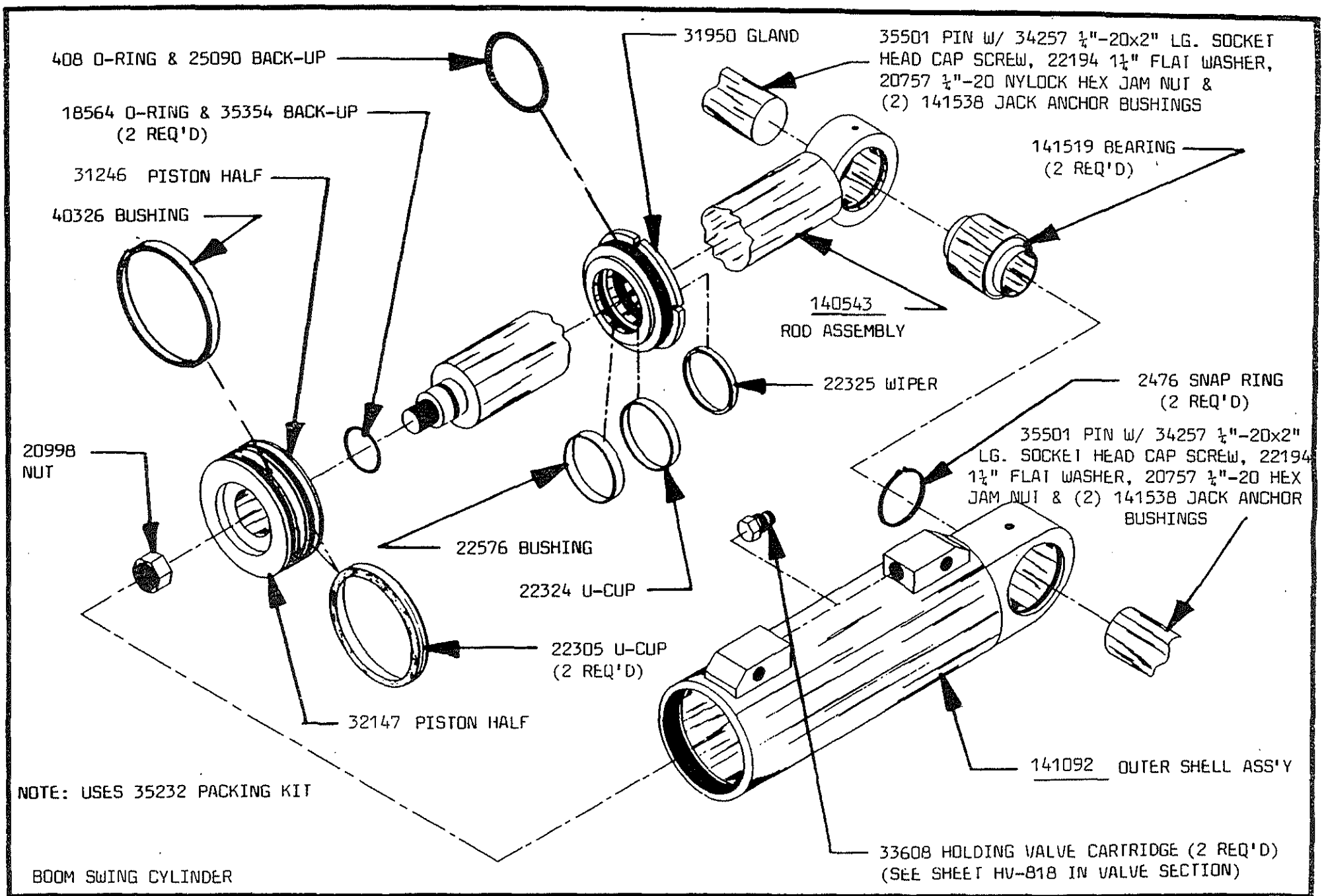
DROPMAST CYLINDER

SHEET NO.	TITLE	DATE	R	J H FLETCHER & CO
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NOTE: 35219 PACKING KIT

FORE-AFT TILT CYLINDER



BOOM SWING CYLINDER

SHEET NO

TITLE

DATE

R

U ELECTRIC & PA

SHEET NO.

HM-89

TITLE

41849 HYDRAULIC MOTOR

DATE

4-17-72

R

J. W. FLETCHER & CO.

787 WEST 7TH STREET

HUNTINGTON, W. VA.

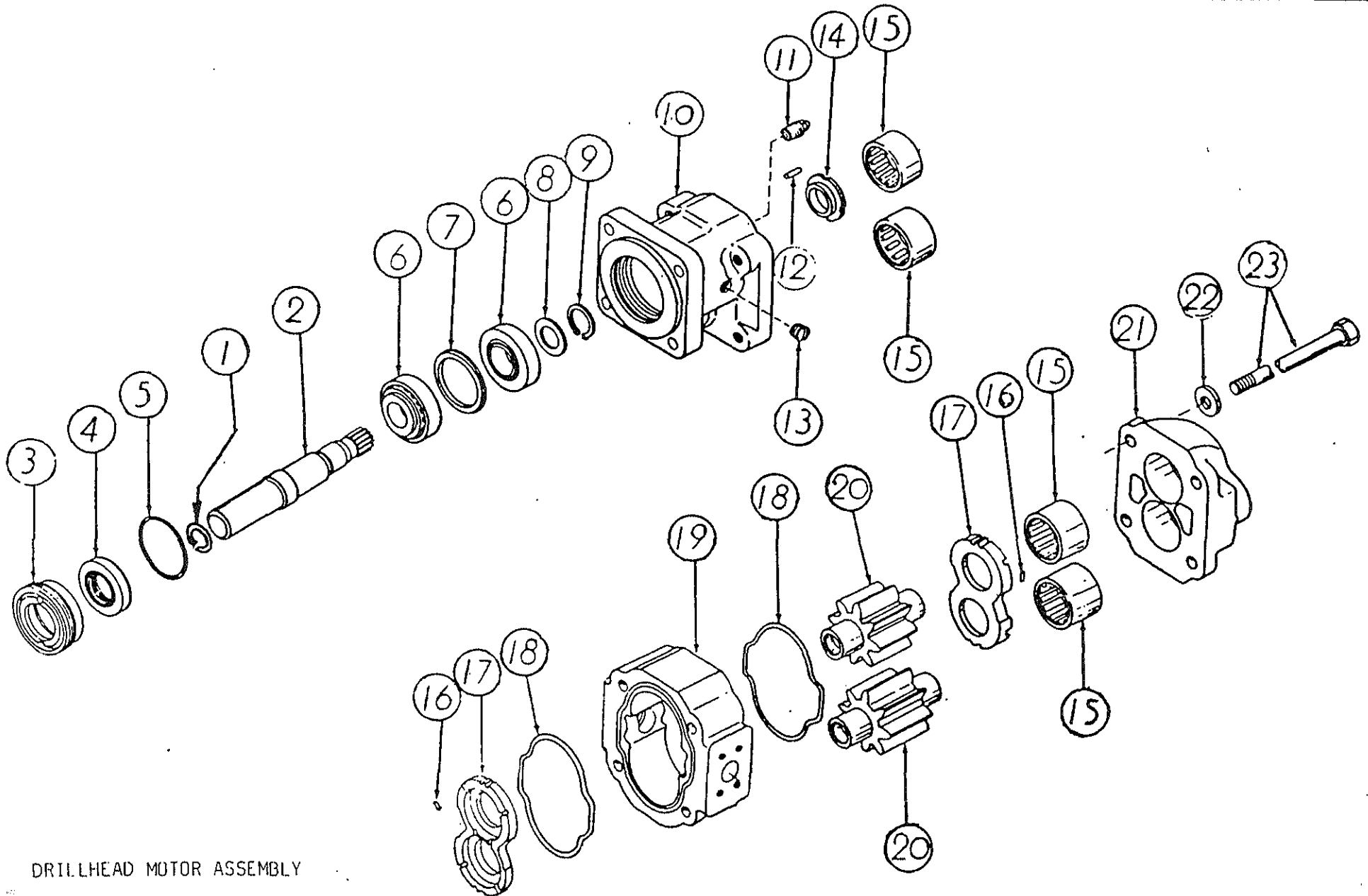
<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D.</u>
1.	2442	SNAP RING	1
2.	30588	SHAFT	1
3.	23045	RETAINING RING	1
4.	24250	HL-PRESSURE SEAL	1
5.	402	"O" RING SEAL	1
6.	40008	ROLLER BEARING	2
7.	21504	BEARING SPACER	1
8.	21505 (**)	SPACER	1
9.	1316	SNAP RING	1
10.	47001	SHAFT END COVER	1
11.	23048	CHECK ASSEMBLY	2
12.	30397	ROLL PIN	1
13.	20267	PLUG	1
14.	40255	SHAFT BUSHING	1
15.	40009	NEEDLE BEARING	4
16.	21266	POCKET SEAL	12
17.	23035	THURST PLATE	2
18.	409	"O" RING SEAL	2
19.	47261	GEAR HOUSING	1
20.	41257	GEAR SET	1
21.	47460	PORT END COVER	1
22.	22035	WASHER	4
23.	31754	BOLT	2

(**) IF THIS SPACER DOES NOT ALLOW THE SNAP RING TO FIT THE SLOT USE 21508 SPACER

NOTE: BULKHEAD FITTINGS USED ON MOTOR ARE:

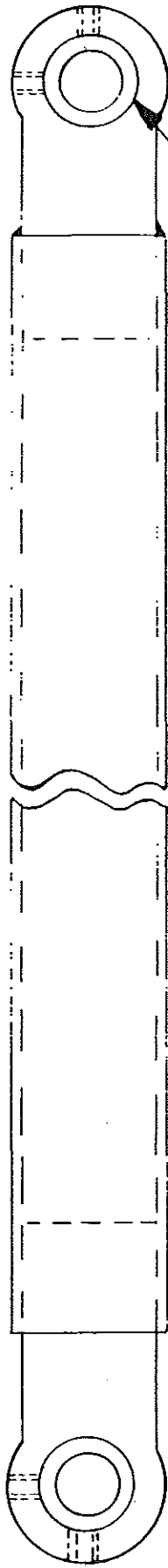
20382 45 degree
20379 90 degree

NOT SHOWN: 25758 SHAFT KEY



DRILLHEAD MOTOR ASSEMBLY

SHEET NO.	TITLE	DATE	R	J. H. FLETCHER & CO.
HM-89	41849 HYDRAULIC MOTOR	3-3-76		LIMINGTON, W. VA.



40007 BEARING
(2 REQ'D)

SHEET NO.

TITLE

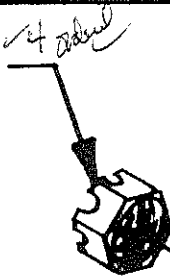
DATE

R

J. H. FLETCHER & CO.

Pantograph ARM

*20794 NUT

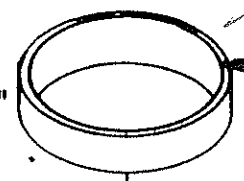


*35501 BOOM SWING CYLINDER PIN
(ROD END) W/*34257 1/2"-20x2" LG.
SOCKET HEAD CAP SCREW, *22194 1 1/2"
FLAT WASHER, *20757 1/2"-20 NYLOCK
HEX JAM NUT & *141538 BUSHING
(2 PER ANCHOR)

4 EACH

ORDER 4 EA

40059 CUP & *40060 CONE
(SEE SHEET MB-415B)



make

*141598 BUSHING

4 ordered

* 33406 BOOM MOUNT PIN ASSEMBLY

*33495 LINK PIVOT PIN
(2 REQ'D)

4 EACH
ordered

*33364 BOOM LIFT CYLINDER PIN
W/*93881 KEEPER, *93882 KEEPER
MOUNT, *24989 3/8"-16x3/4" LG.
HEX HEAD CAP SCREW (2 REQ'D)
& *22010 3/8" LOCKWASHERS

ordered

1/2"-13x1 1/4" LG. HEX
HEAD CAP SCREW (4 REQ'D)

SHEET NO.

TITLE

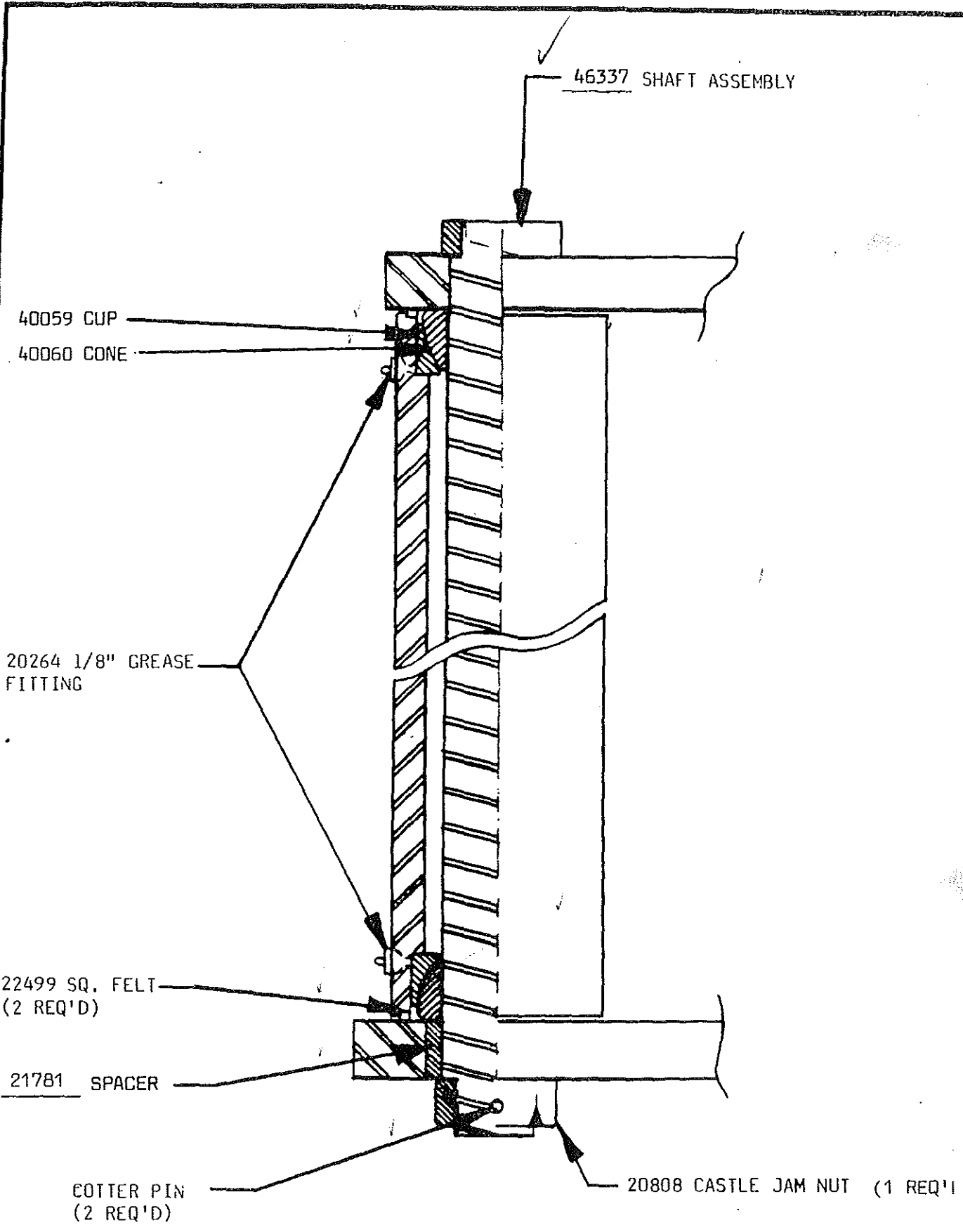
DATE

R

188532 L.H. BOOM PIVOT ASSEMBLY

6/3/88

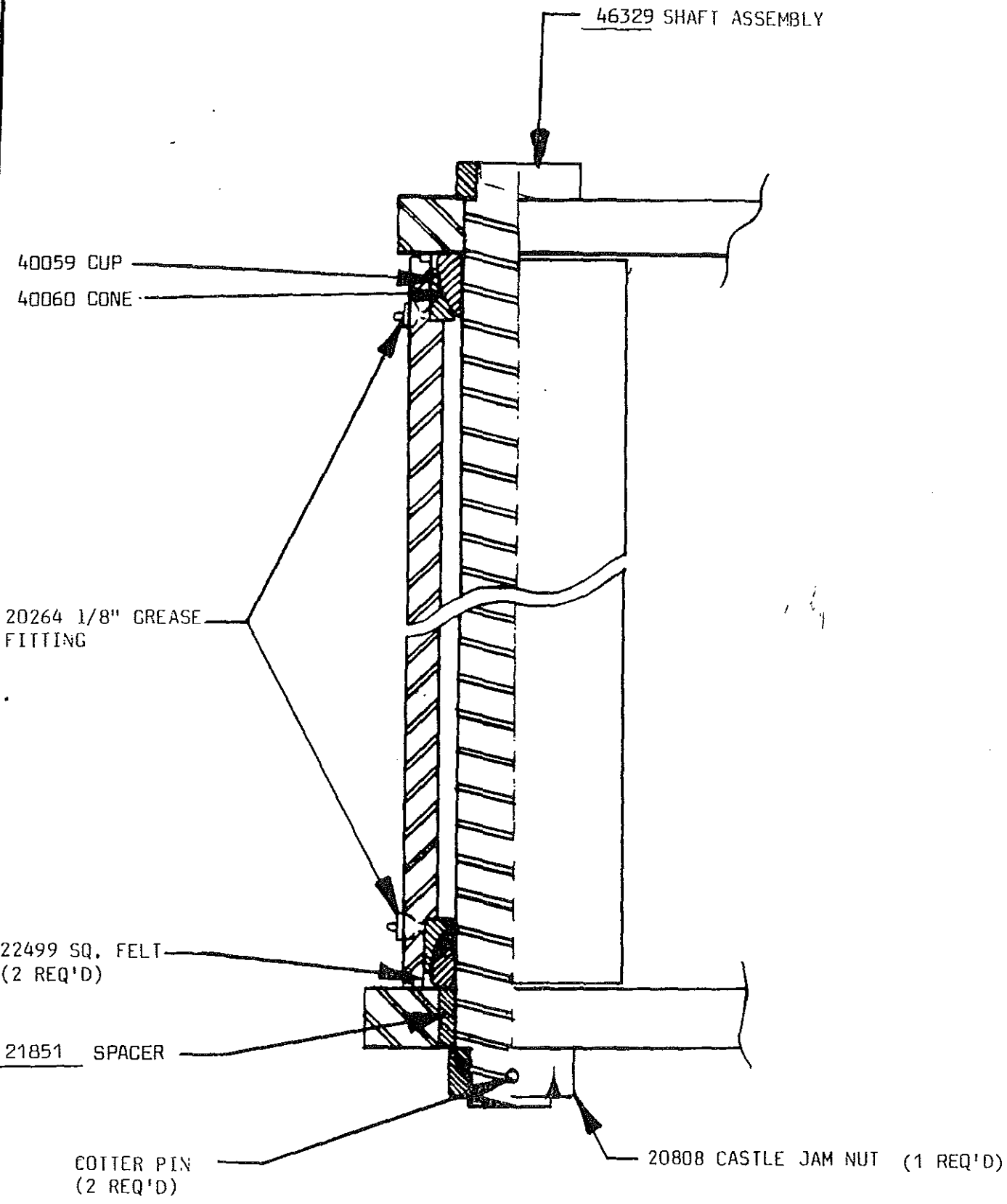
J. N. FLETCHER & CO.



TITLE
 BOOM PIVOT ARRANGEMENT

J. N. FLETCHER & CO.
 707 WEST 7TH STREET HUNTINGTON W VA

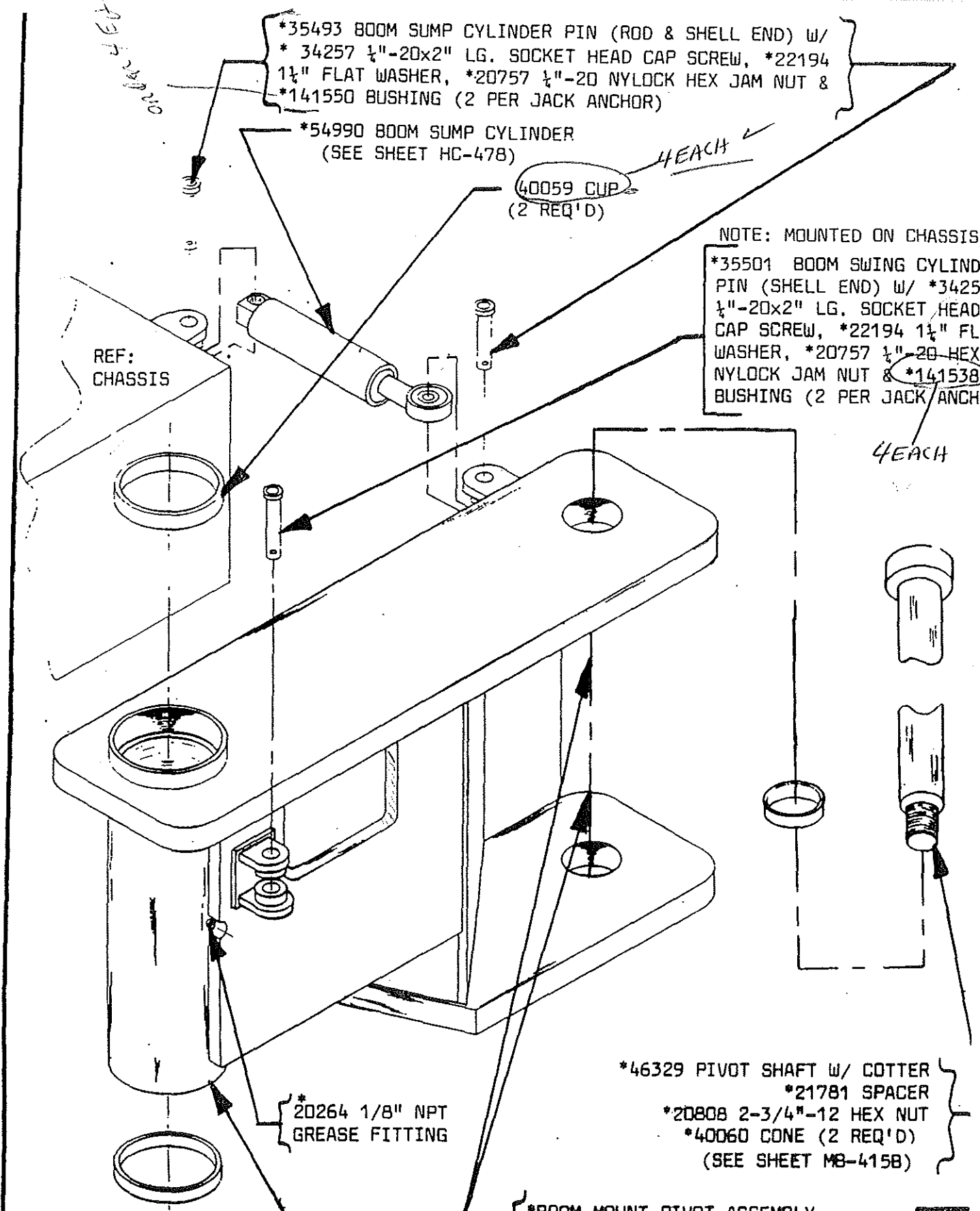
SHEET NO.



TITLE
BOOM PIVOT ARRANGEMENT

J. H. FLETCHER & CO.
707 WEST 7TH STREET HUNTINGTON W VA

SHEET NO.
M13 716 R



*35493 BOOM SUMP CYLINDER PIN (ROD & SHELL END) W/
 * 34257 1/2"-20x2" LG. SOCKET HEAD CAP SCREW, *22194
 1 1/2" FLAT WASHER, *20757 1/2"-20 NYLOCK HEX JAM NUT &
 *141550 BUSHING (2 PER JACK ANCHOR)

*54990 BOOM SUMP CYLINDER
 (SEE SHEET HC-478)

40059 CUP
 (2 REQ'D)

NOTE: MOUNTED ON CHASSIS

*35501 BOOM SWING CYLIND
 PIN (SHELL END) W/ *3425
 1/2"-20x2" LG. SOCKET HEAD
 CAP SCREW, *22194 1 1/2" FL
 WASHER, *20757 1/2"-20 HEX
 NYLOCK JAM NUT & *141538
 BUSHING (2 PER JACK ANCH

REF:
 CHASSIS

4 EACH

*20264 1/8" NPT
 GREASE FITTING

*46329 PIVOT SHAFT W/ COTTER
 *21781 SPACER
 *20808 2-3/4"-12 HEX NUT
 *40060 CONE (2 REQ'D)
 (SEE SHEET MB-415B)

*BOOM PIVOT ARRANGEMENT
 (SEE SHEET MB-415A)

*BOOM MOUNT PIVOT ASSEMBLY
 (SEE SHEET MB-401C)

NOTE: * INDICATES ITEMS NOT PART OF ASSEMBLY

TITLE
 188562 L.H. BOOM MOUNT ASSEMBLY
 188563 R.H. BOOM MOUNT ASSEMBLY

J. N. FLETCHER & CO.
 707 WEST 7TH STREET HUNTINGTON, W. VA.

SHEET NO.

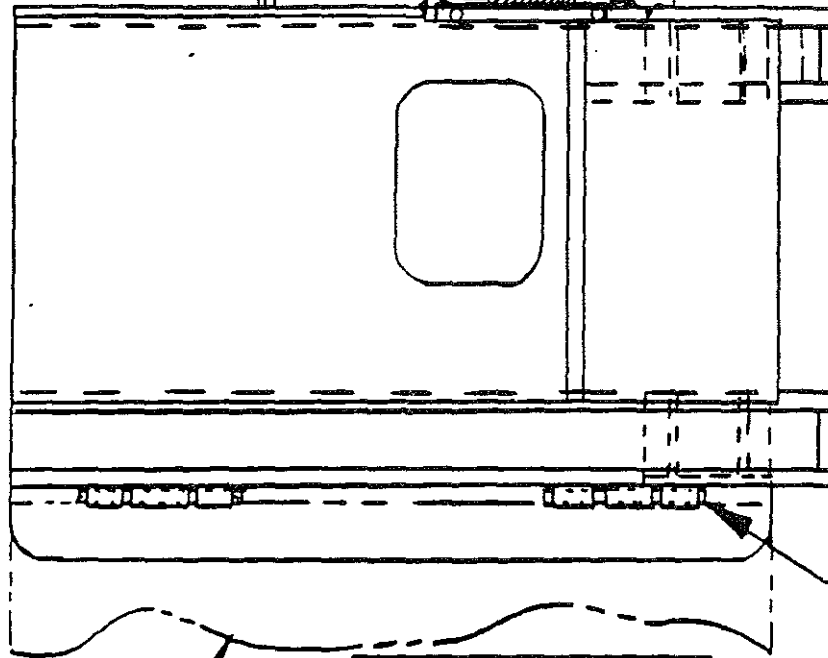
3/4"-10x1-1/2" HEX HD. CAP
CAP SCREW WITH LOCKWASHERS
(14 REQ'D EACH)

SAFETY POST CAP

3/8"-16x1" LG. FLAT
HEAD CAP SCREW (6 REQ)

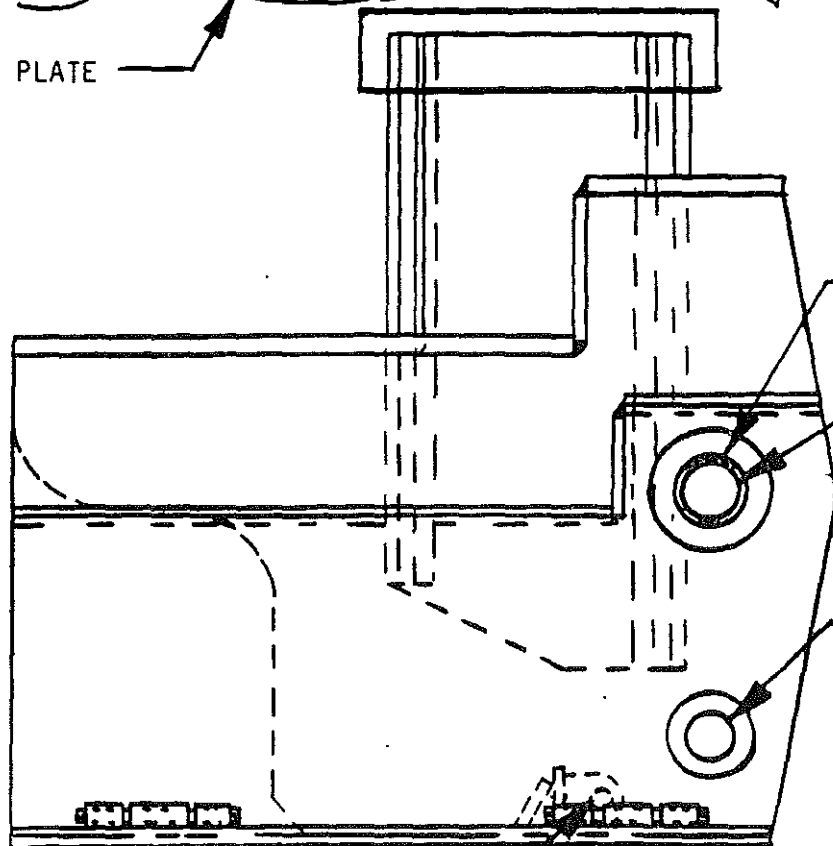
188797 WEAR PAD
RETAINER (3 REQ

188800 WEAR PAI
(3 REQ'D) W/
188806 AND / O
188807 SHIM (U
AS REQ'D)



197360 FLOOR PLATE

30338 HINGE PIN
WITH COTTERS
(2 REQ'D)



40478 BUSHING

34039 PIN WITH
177769 CAP HELI
TWO 1/2"-13x1-
HEX HD. CAP SCI

33582 PIN WITH
93881 KEEPER
(2 REQ'D EACH)

30309 FORE-AFT TILT CYLINDER PIN
(SHELL END) W/ COTTERS & (2) 141552 BUSHINGS

SHEET NO.

188579
188580

TITLE
PLATFORM ASSEMBLY (R.H.)
PLATFORM ASSEMBLY (L.H.)

J. H. FLETCHER & CO.

707 WEST 7TH STREET

HUNTINGTON W VA.

45895 ROLLER ASSEMBLY
(4 REQ'D)

145092 BEARING

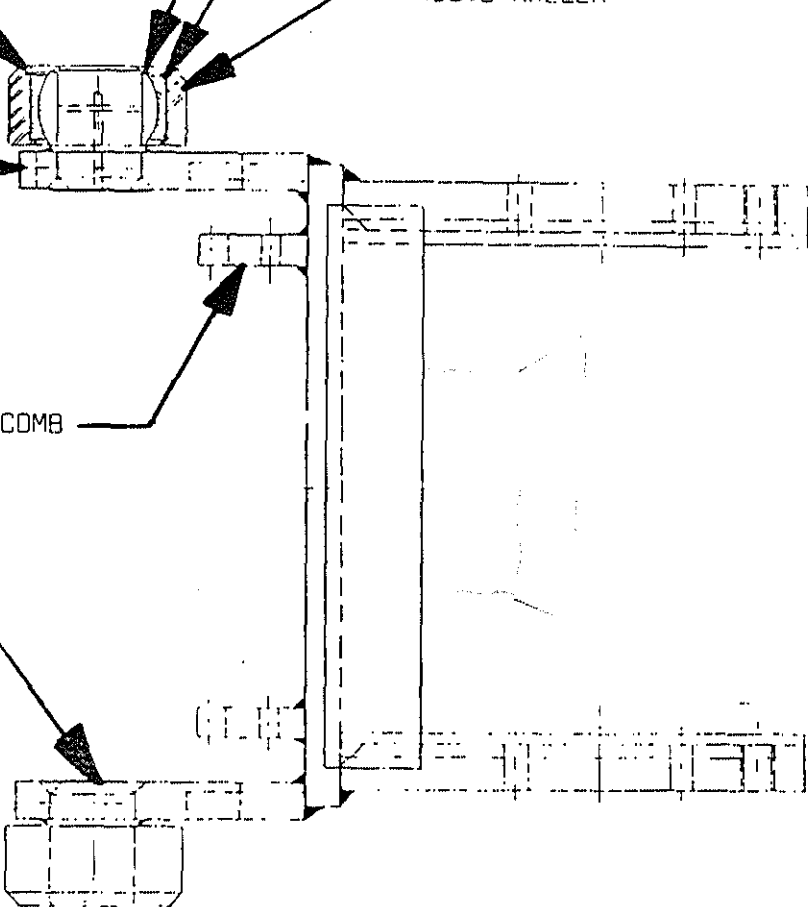
2445 SNAP RING
(4 REQ'D)

45896 ROLLER

20264 STRAIGHT 1/8"
NPI GREASE FILLING

70488 COMB

35872 ROLLER PIN



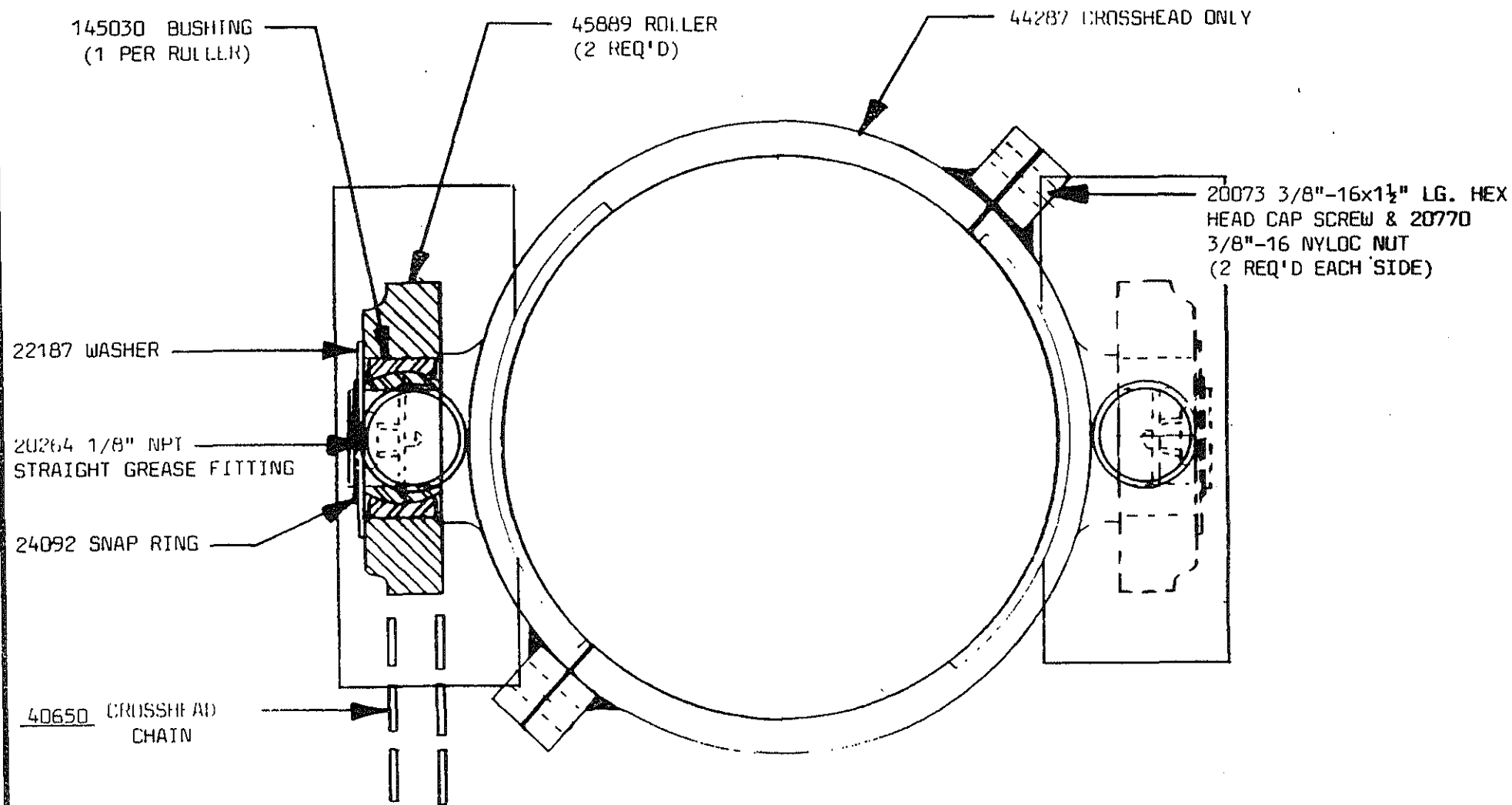
SHEET NO.

TITLE

DATE

R

J. H. FLETCHER & CO.



NOTE: (2) CROSSHEADS REQUIRED PER DRILLING UNIT

SHEET NO.

TITLE

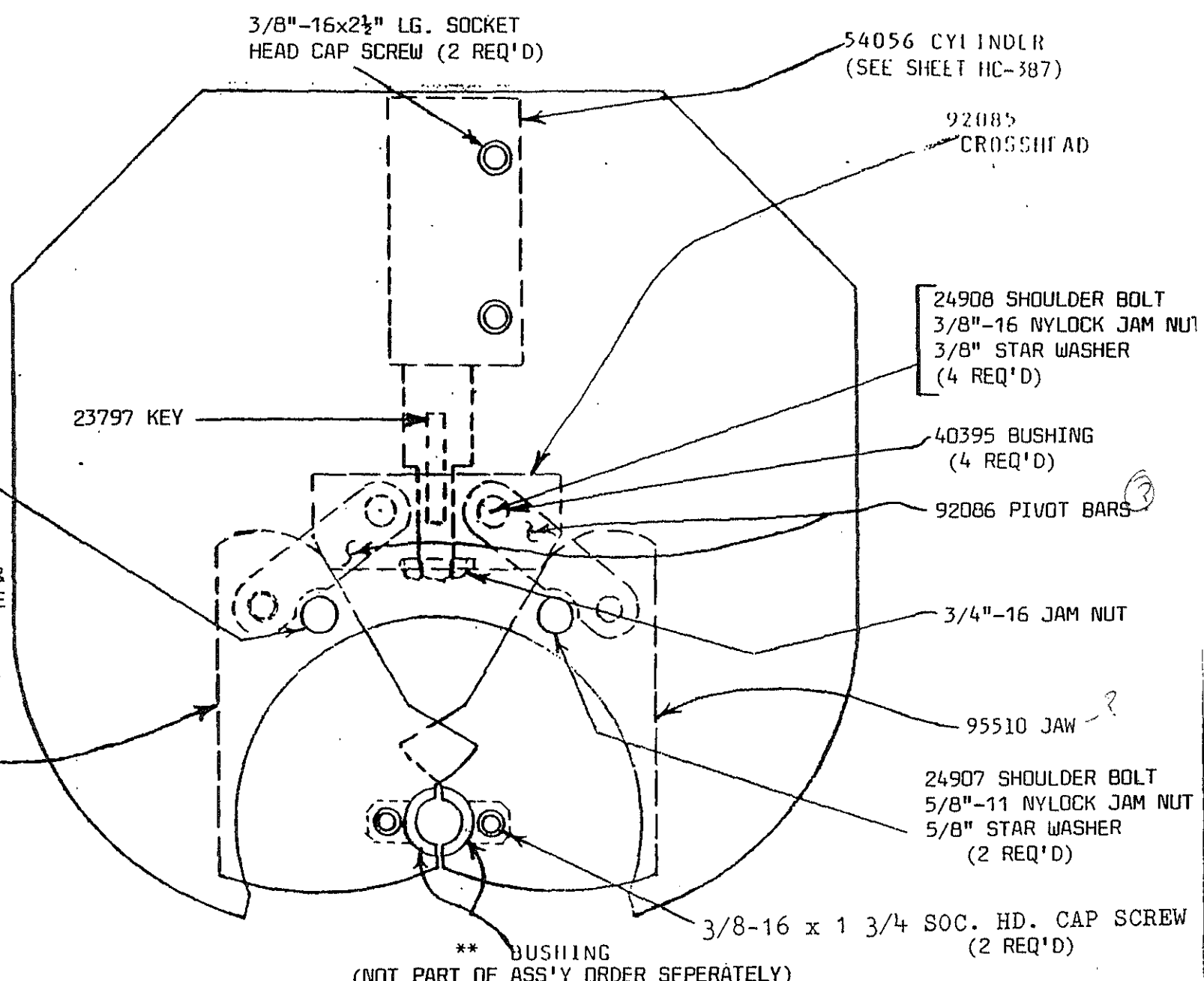
DATE

R

J. W. FLETCHER & CO.

** (1 REQ'D)
DRILL GUIDE BUSHING

PART NO.	DRILL STEEL
40402	1-1/8"
40413	7/8"
40424	1-3/8"
40431	1-5/16"



NOTE: ASSEMBLE SHOULDER BOLTS W/ LOCTITE

NOTE: ASSEMBLE CROSSHEAD & CYLINDER ROD W/ ANTI SEEZE

REF: (FOR MOUNTING)
NOT PART OF ASSEMBLY
5/8"-11x2" HEX HEAD CAP SCREW, 5/8" L.W.
& 95461 MOUNTING PAD (4 REQ'D)

SHEET NO.

TITLE

DATE

R

J. W. FORTNER & CO.

SHEET NO.

MM-91

TITLE

WATER DRILLHEAD ASSEMBLY

DATE

12/5/89

R

J. H. FLETCHER & CO.

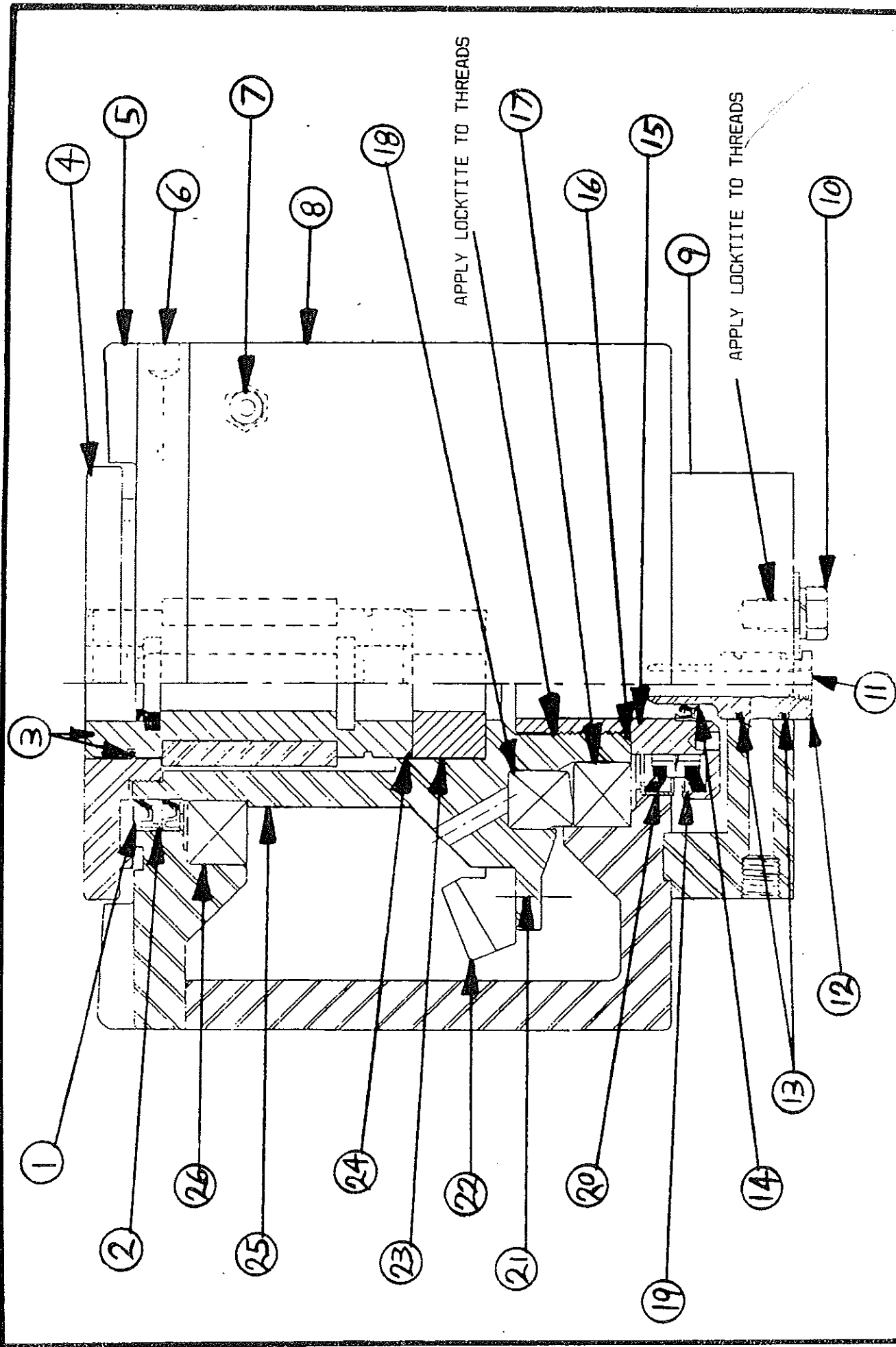
707 WEST 7TH STREET

HUNTINGTON, W VA

ITEM	DESCRIPTION	PART NO.	NO. REQ'D
1	SEAL	24393	2
2	SPACER	121508	1
3	SOCKET ASSEMBLY MADE OF:	203275	1
	SOCKET	203262	1
	O-RING	134181	1
	WATER SEAL	135020	1
4	FLINGER	161022	1
5	COVER	94376	1
6	GREASE FITTING	20264	2
7	FLUSH FITTING	18318	1
8	BOX	94346	1
9	BOTTOM COVER	196971	1
10	½"-13x7/8" H.H.C.S.	20106	1
	½" LOCKWASHER FOR ABOVE	22011	1
	½" FLAT WASHER FOR ABOVE	22019	1
11	PIPE PLUG	36627	1
12	WATER JET	203265	1
13	O-RING	25121	2
14	SEAL	135019	1
15	SEAL RETAINER	203263	1
16	O-RING	35327	1
17	BEARING	2501	1
18	BEARING	145026	1
19	SEAL	35028	1
20	SEAL ADAPTOR RING	181397	1
21	3/8"x24-3/4" LG. H.H.C.S.	20026	10
	3/8" LOCKWASHER	22010	10
22	RING GEAR	41269	1
23	SPACER	203264	1
24	O-RING	134181	1
25	SOCKET SHAFT	181350	1
26	BEARING	45464	1
	DRILLHEAD MOTOR	41849	1
	(SEE SHEET HM-89)		

55775 DRILLHEAD ASSEMBLY ONLY

55778 DRILLHEAD ASSEMBLY WITH MOTOR



SHEET NO.

TITLE

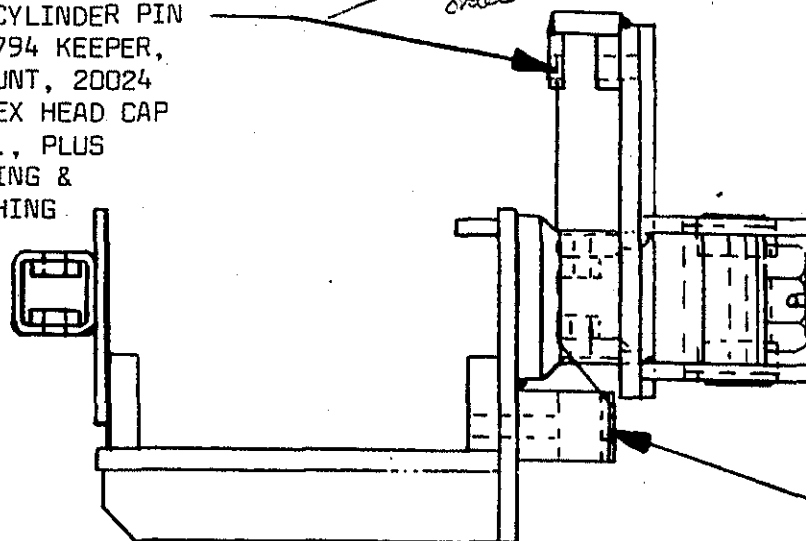
DATE

R

J. H. FLETCHER & CO.

35472 MAST TILT CYLINDER PIN
(ROD END) w/ 176794 KEEPER,
176795 KEEPER MOUNT, 20024
3/8"-16x1" LG. HEX HEAD CAP
SCREW, 22010 L.W., PLUS
Order 185188 (1") BUSHING &
206313 (2½") BUSHING

*ZSA-
order*

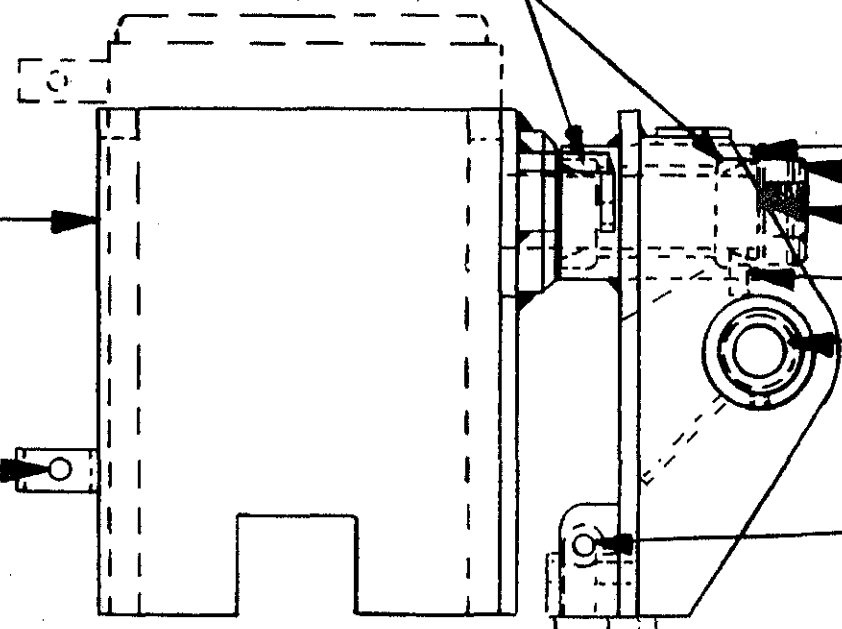


35473 MAST TILT CYLINDER PIN
(SHELL END) w/ 176794 KEEPER,
20024 3/8"-16x1" LG. HEX HEAD
CAP SCREW, 22010 3/8" L.W.,
185188 (1") BUSHING
201729 (1½") BUSHING } *order*

40478 BEARING (2 REQ'D) *ordered @*

206289 L.H. DROPMAST ASSEMBLY
206290 R.H. DROPMAST ASSEMBLY

30309 DROPMAST CYLINDER
PIN w/ COTTERS



99834 WASHER
20916 NUT
46342 PIVOT SHAFT
99835 ¼"x19" LG. PFI
145098 BEARING (2 REQ'D)

30309 FORE-AFT TILT CYLINDER
PIN (ROD END) w/ COTTERS &
(2) 141553 BUSHINGS

SHEET NO.

TITLE

DATE

R

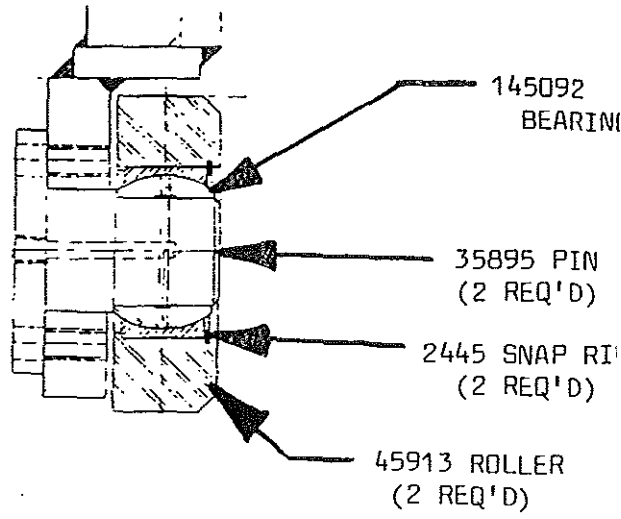
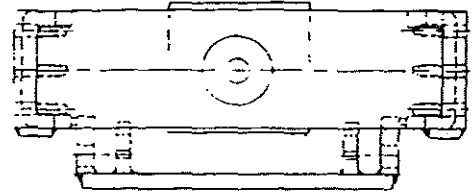
J. H. FLETCHER & CO.

MIL-211

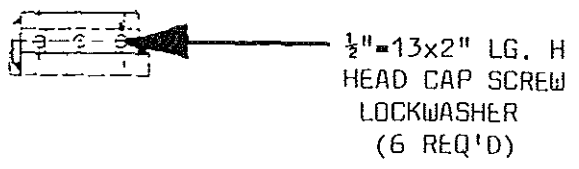
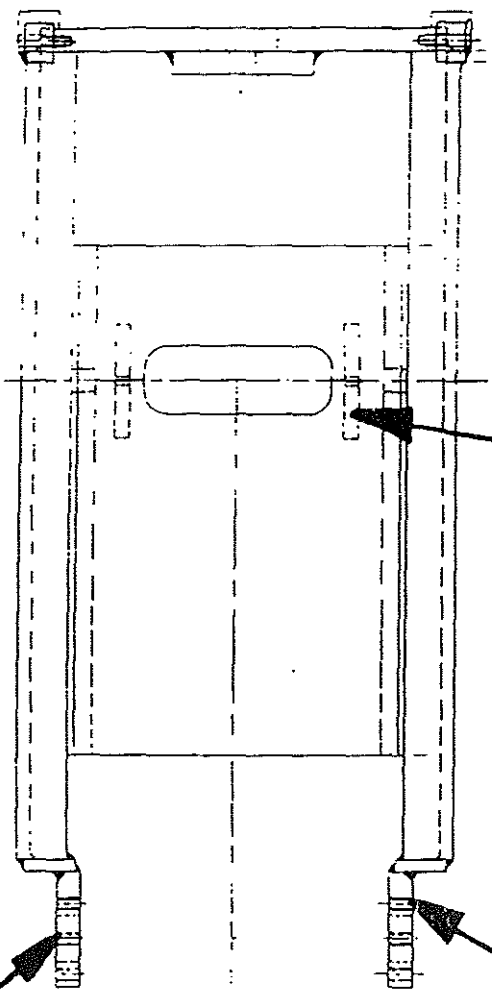
206287 L.H. DROPMAST TILT & PIVOT ASSEMBLY

6/26/90

1/2"-13x1 1/2" LG. HEX HEAD CAP SCREW & LOCKWASHER



45914 ROLLER ASSEMBLY



1/2"-13x2" LG. H HEAD CAP SCREW LOCKWASHER (6 REQ'D)

70488 COMB

204109 ROLLER MOUNT BRACKET

1/2"-13x1 1/2" LG. HEX HEAD CAP SCREW & L.W. (8 REQ'D)

TITLE

52430 INNER MAST ASSEMBLY

J. N. FLETCHER & CO.

707 WEST 7TH STREET HUNTINGTON W. VA

SHEET NO.

45896 ROLLER, 145092 BUSHING, & 2445 SNAP RING

24197 SNAP RING (4 REQ'D)

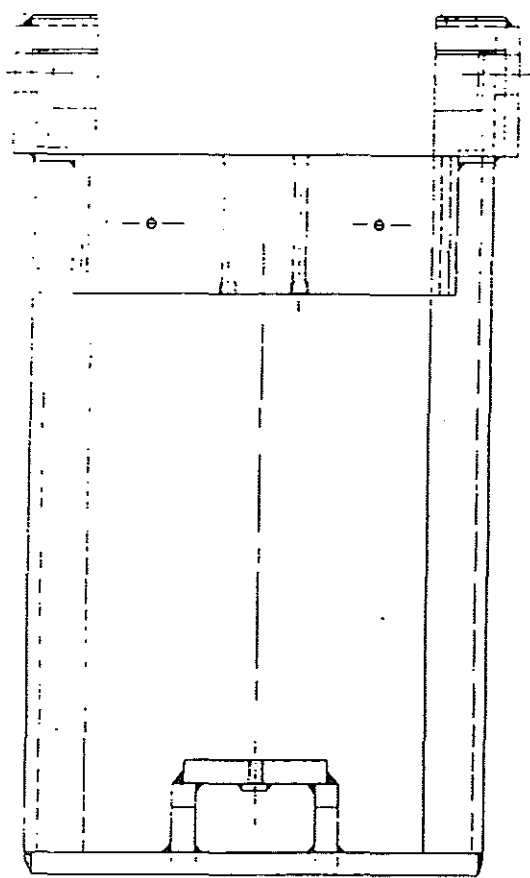
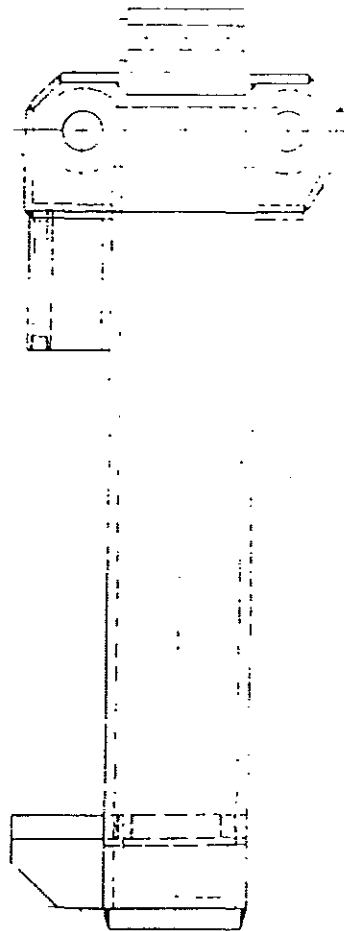
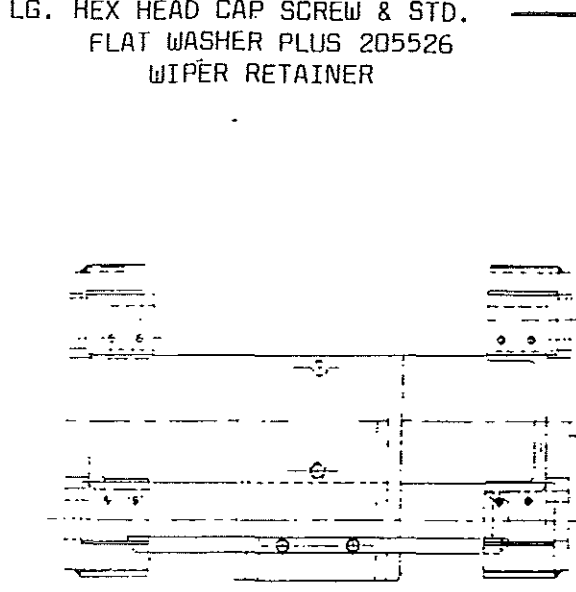
20264 STRAIGHT GREASE FITTING (2 REQ'D)

204118 WIPER W/ (2) 3/8"-16x3/4"
LG. HEX HEAD CAP SCREW & STD.
FLAT WASHER PLUS 205526
WIPER RETAINER

134057 ECCENTRIC SHAFT

21063 "BEARHUG" LOCK NUT
(4 REQ'D)

45895 ROLLER ASSEMBLY



TITLE

52432 OUTER MAST ASSEMBLY

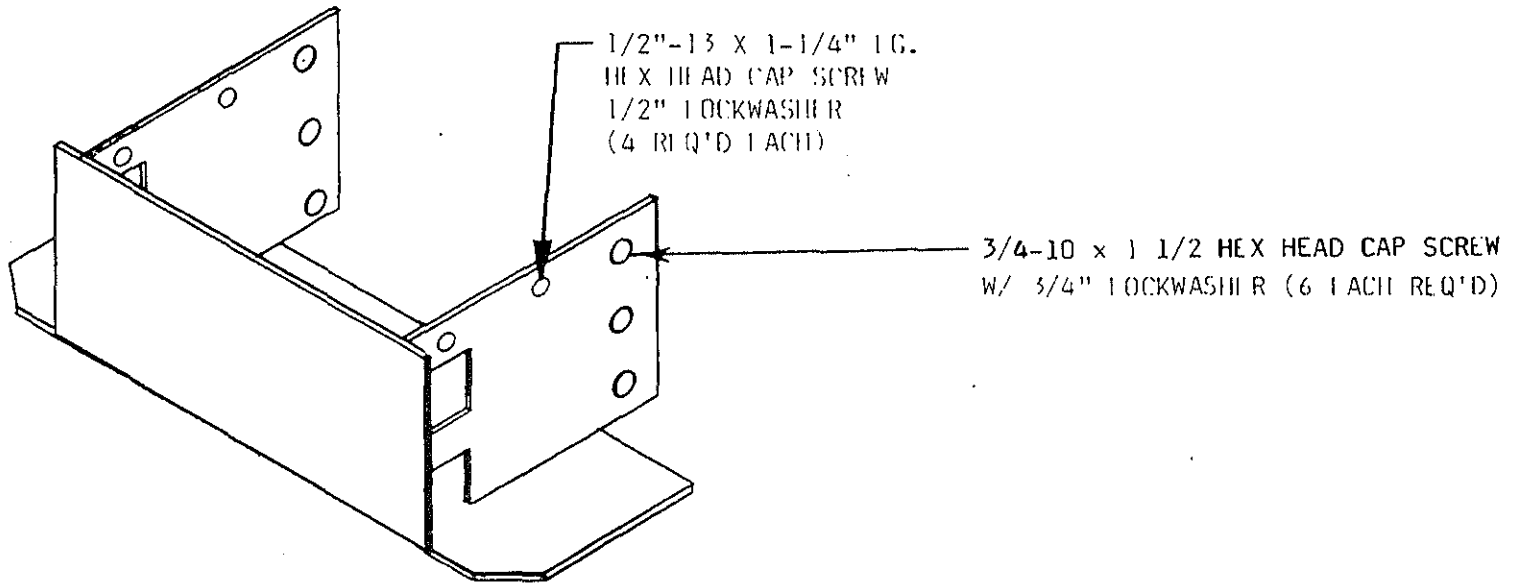
J. N. FLETCHER & CO.

707 WEST 7TH STREET

HUNTINGTON W VA

SHEET NO.

NO. 00



SHEET NO.

NY-316

TITLE

95713 DRILL HEAD GUARD

DATE

6-2-78

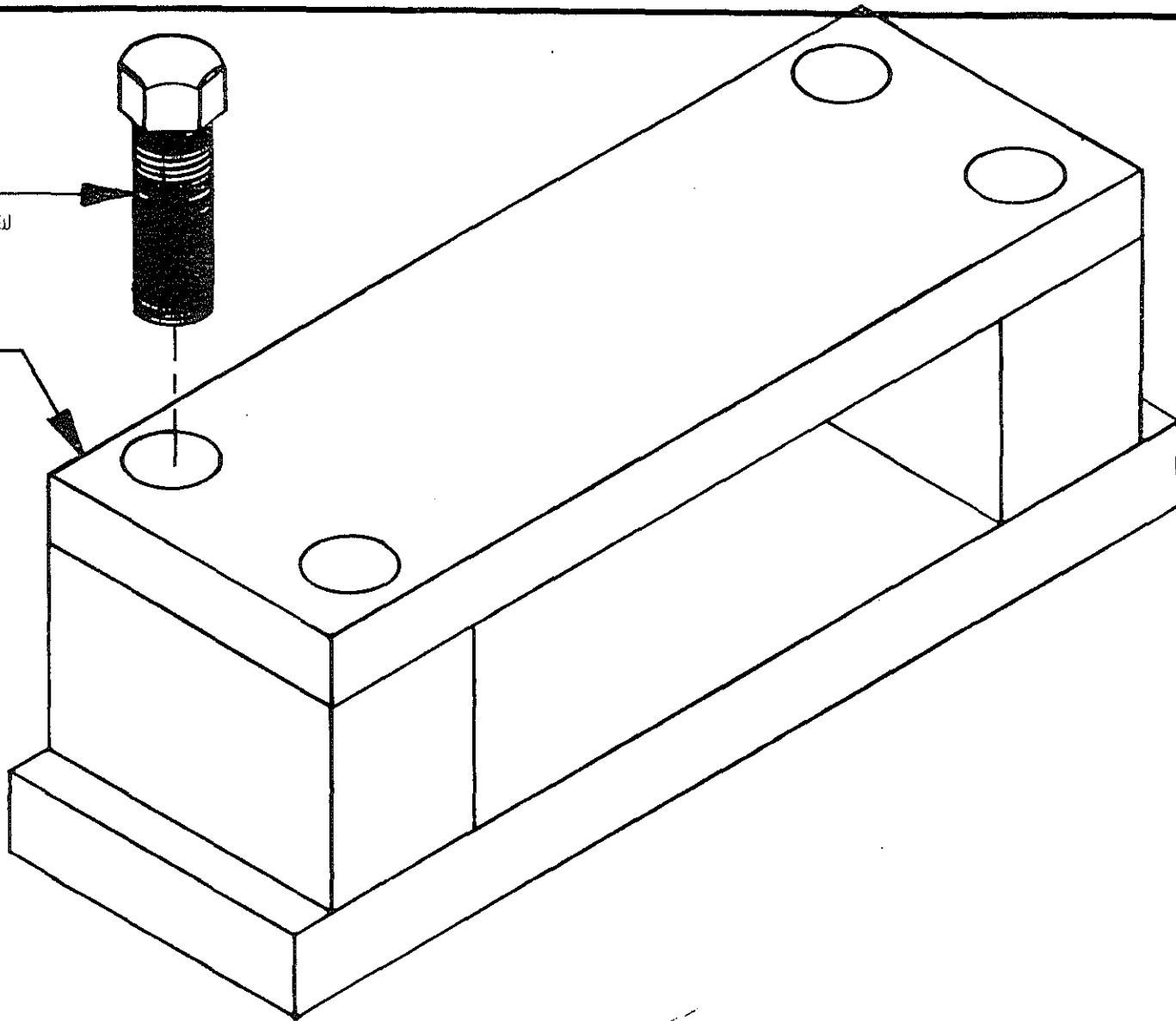
R

J. H. FLETCHER & CO.

707 WEST 7TH STREET HUNTINGTON, W. VA.

1/2"-13x1-5/8" LG.
HEX HEAD CAP SCREW
W/ LOCKWASHER

195153 PLATE



SHEET NO.

MY-698

TITLE

195150 HOSE CLAMP ASSEMBLY

DATE

R

J. H. FLETCHER & CO.

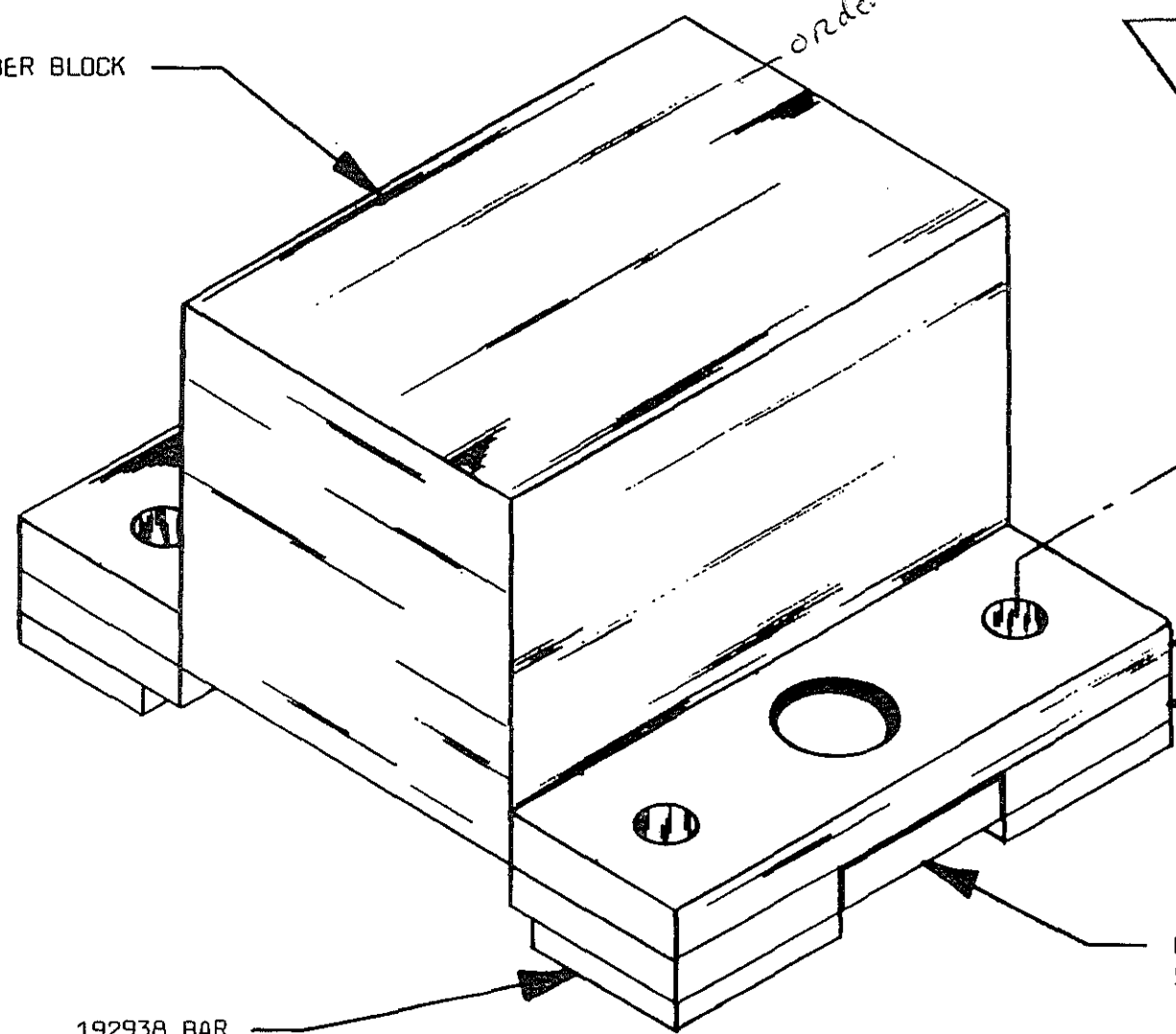
707 WEST 7TH STREET

HUNTINGTON W VA

53649 RUBBER BLOCK

ordered 2

1/2"-13x1 1/2" LG. HEX HEAD CAP
SCREW & LOCKWASHER (4 REQ'D)



192936 BAR

192937 BAR

192938 BAR

NOTE: MOUNTING EAR, PART OF
53649 RUBBER BLOCK

&

NOT SHOWN: 89383 STARTER FOOT

SHEET NO.

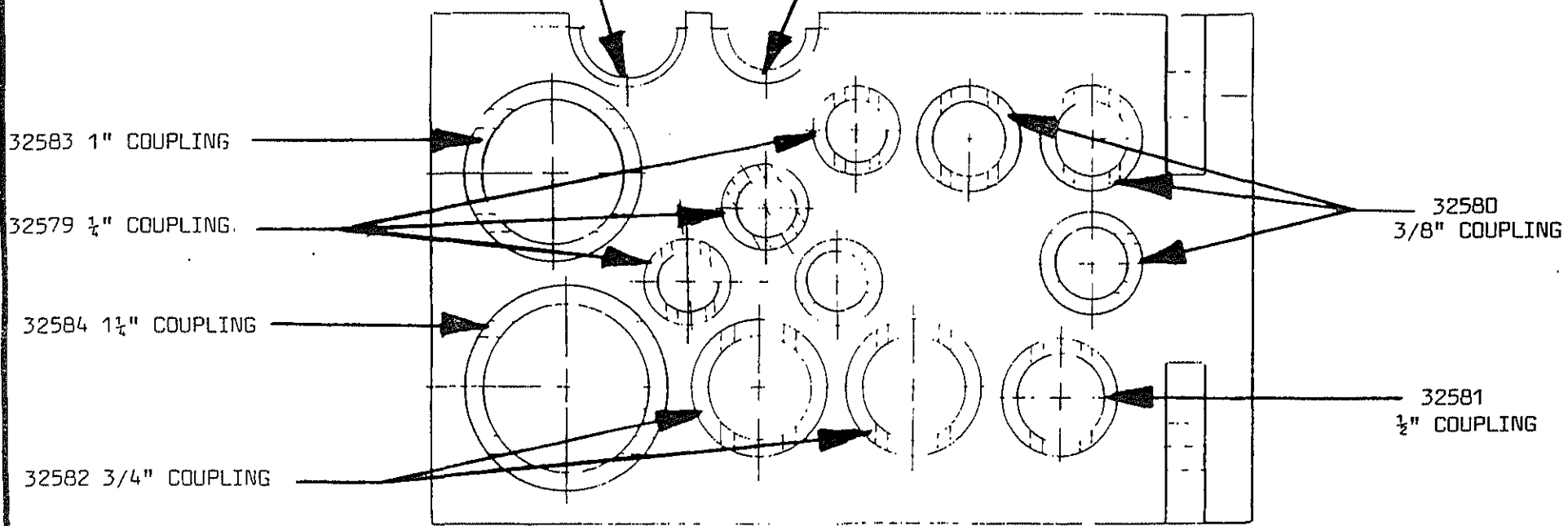
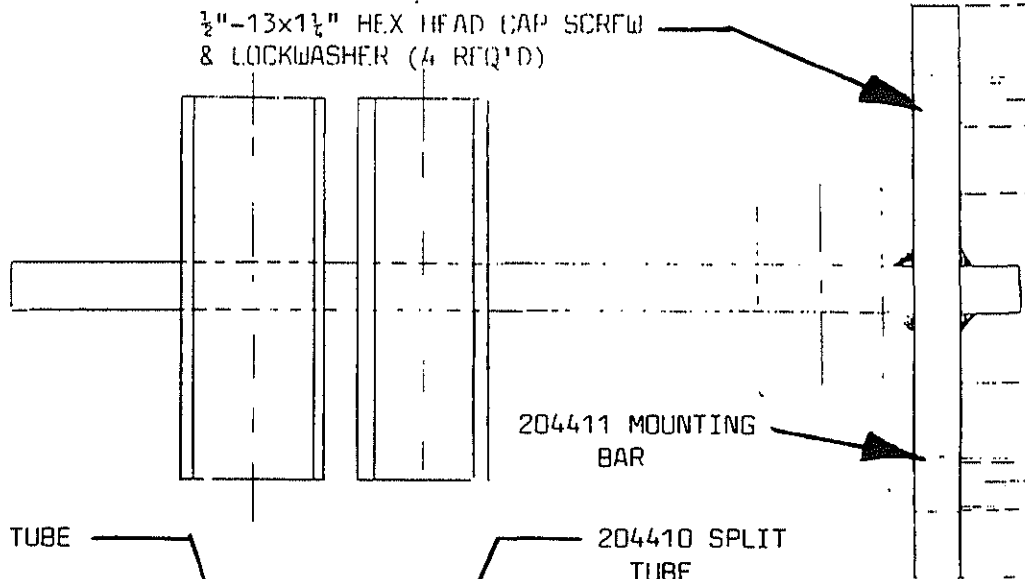
TITLE

DATE

R

J. H. FITCHER & CO

1/2"-13x1 1/4" HEX HEAD CAP SCREW
& LOCKWASHER (4 REQ'D)



SHEET NO.

TITLE

DATE

R

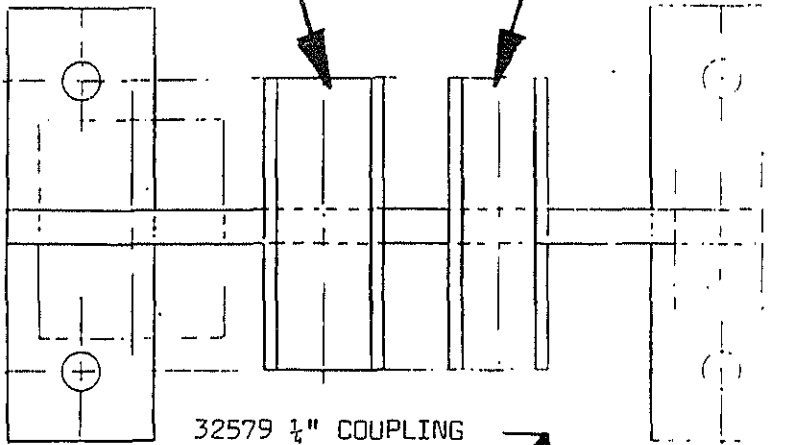
J. H. FLETCHER & CO.

COUPLING PLATE ASSEMBLY

6/22/00

204409 SPLIT TUBE

204410 SPLIT TUBE

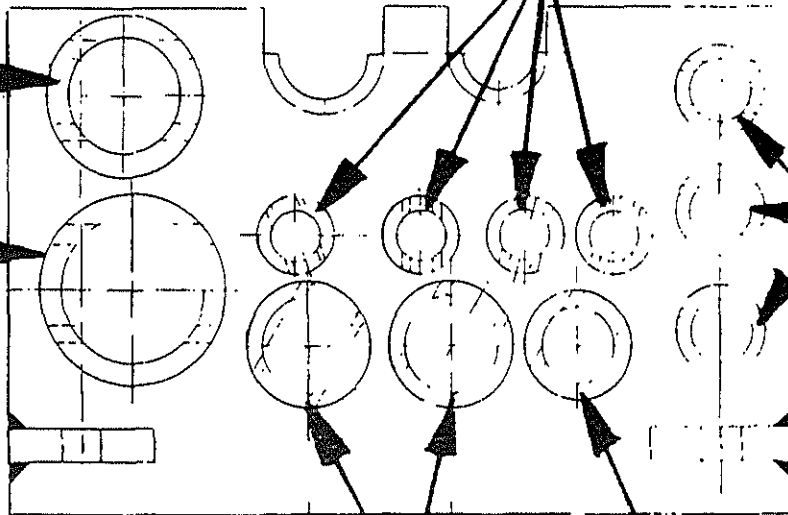


1/2"-13x1 1/4" LG. HEX HEAD CAP SCREW
& LOCKWASHER (4 REQ'D)

32579 1/4" COUPLING

32583
1" COUPLING

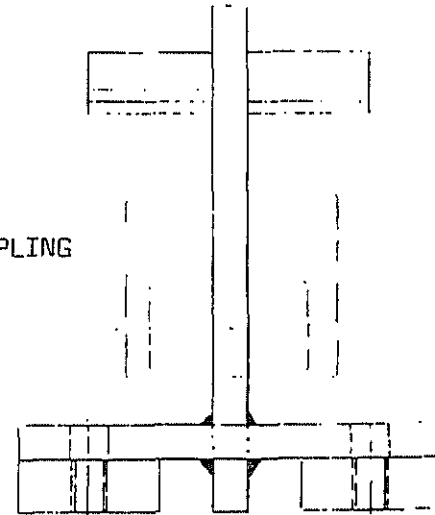
32584
1 1/4" COUPLING



32580
3/8" COUPLING

32582 3/4" COUPLING

32581 1/2" COUPLING



SHEET NO.

MV-791 A

TITLE

206697 COUPLING PLATE ASSEMBLY

DATE

6/22/90

R

J. H. FLETCHER & CO.