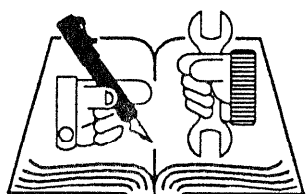


PARTS MANUAL

**TOWING WINCH
W3A**

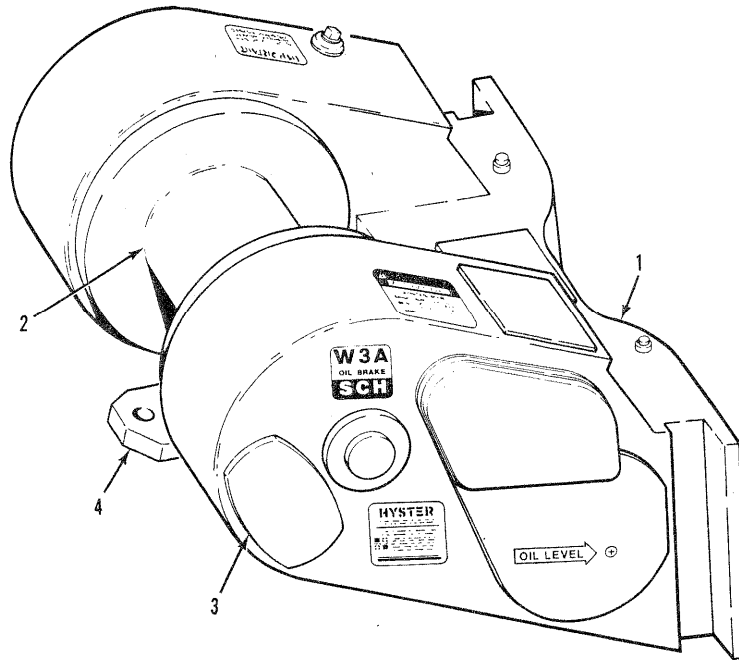


Hyster Easy Language Program

CUSTOMER EDITION

INTENTIONALLY BLANK

INDEX-ILLUSTRATED



REF	ITEM	PAGE
1	FRAME/COVERS/PARTS-MOUNTING_____	1A04
2	GEARS/SHAFTS_____	1B02
3	HYDRAULIC_____	1C02
4	OPTIONAL_____	1D02
5	INDEX-NUMERICAL_____	G02

INDEX-ALPHABETICAL

ARCH _____ 1D06
 BRAKE _____ 1B08
 CLUTCH _____ 1B07
 COVERS _____ 1A05
 DECALS/PAINT _____ 1A11
 DRAWBAR _____ 1D03
 FAIRLEAD _____ 1D04-1D05
 FRAME/COVERS _____ 1A05
 GEAR-HANDLING _____ 1C10-1C13
 HYDRAULIC _____ 1C03-1C04

INDEX-NUMERICAL _____ G02
 PAINT _____ 1A11
 PARTS-MOUNTING _____ 1A06-1A10
 PUMP-HYDRAULIC _____ 1C09
 SHAFT-BEVEL GEAR _____ 1B06
 SHAFT-DRUM _____ 1B09
 SHAFT-INTERMEDIATE GEAR _____ 1B10
 SHAFT-PTO _____ 1B03-1B05
 UNION-ROTATING _____ 1C08
 VALVE-CONTROL _____ 1C05-1C06
 VALVE-PRESSURE _____ 1C07

IDENTIFICATION-UNIT

FOR PENDING SERIAL NUMBERS CONTACT YOUR LOCAL HYSTER DEALER

HYSTER WINCH SERIAL NUMBER NAMEPLATE DATA FOR TRACTOR AND SKIDDER MOUNTING

EXAMPLE:

W3A
(1)
WINCH MODEL

P
(2)
DRIVE

1
(3)
GEAR RATIO

8
(4)
OPTIONS

1555
(5)
SEQ NO

C11
(6)
TRACTOR

- (1) WINCH MODEL W3A
(2) TYPE DRIVE P-POWER CONTROLLED
X-DIRECT DRIVE (GEAR DRIVE)

- (3) GEAR RATIOS FOR W3A APPLIES TO WINCH ONLY
* INDICATES STANDARD
GEAR RATIO
INDICATES OPTIONAL
GEAR RATIO

- (4) INTERNAL OPTIONS
F-FREESPOOL
N-NON-FREESPOOL
A-POWER FORWARD ONLY WITH FREESPOOL (PFO)
B-POWER FORWARD AND REVERSE WITH FREESPOOL (PFR)

- (5) SEQUENCE NUMBER

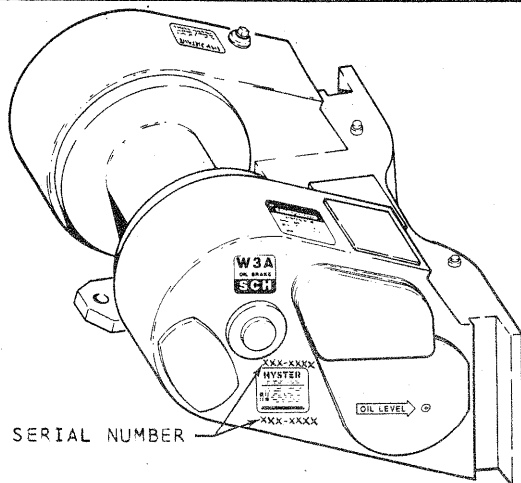
- (6) TRACTOR OR SKIDDER-MAKE MODEL AND STARTING TRACTOR SERIAL NUMBER WHERE APPLICABLE

CODE	W3A GEAR RATIO
1	29.7
2	49.8
3	39.4
4	39.4
5	
6	
7	

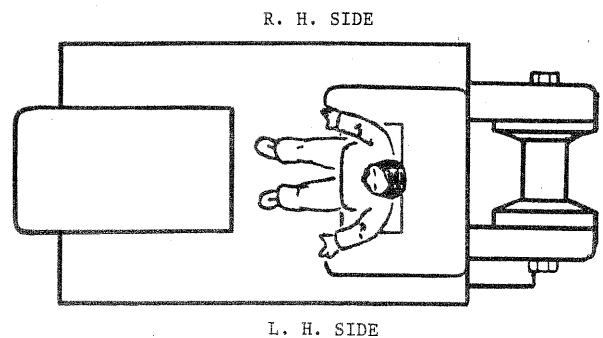
WINCH MODEL	CODE	TRACTOR MAKE MODEL AND STARTING TRACTOR SERIAL NUMBER WHERE APPLICABLE								
		A	C	E	F	G	H	K	M	T
		FIAT- ALLIS	CAT	JOHN DEERE	FMC	TEREX	IHC	KOMATSU	MF	CANAR
W3A	11	FD5 FD7 *1 #2	D3 *1 #2	450 550 *1 #2			TD7E & TD8E (1) *1 #2			
	12		518 SKIDDER (2)							
	13		518 SKIDDER (3)							

- (1) TD-7E S/N 4410019-U501 & UP
TD-8E S/N 4420012-U501 & UP
(2) CAT 518 SKIDDER S/N 50S3203 & 55U662
TO 94U & 95U
(3) CAT 518 SKIDDER S/N 94U & 95U & UP

PARTS REFERRED TO IN THIS BOOK AS RIGHT OR LEFT
ARE IN ACCORDANCE WITH THE ILLUSTRATION BELOW



THE SERIAL NUMBER APPEARS ON ALL PRODUCT
NAMEPLATES AND IS STAMPED INTO THE FRAME
WINCH FRAMES ARE STAMPED IMMEDIATELY ABOVE
OR BELOW THE NAMEPLATE



CAUTION
NEVER ATTEMPT TO CLEAN OIL OR ADJUST A MACHINE
WHILE IT IS IN MOTION

HOW TO USE THE ILLUSTRATED PARTS MANUAL

THIS PARTS MANUAL DESCRIBES AND ILLUSTRATES ASSEMBLIES, SUBASSEMBLIES AND DETAIL PARTS NEEDED FOR SERVICE REPLACEMENT.

IT ALSO INCLUDES ALL PARTS PECULIAR TO TRUCKS BUILT IN OVERSEAS PLANTS. THESE PARTS ARE INDICATED BY KEYS, SYMBOLS AND FOOTNOTES.

INDEX-ALPHABETICAL

ACTUATOR 2C08
ALTERNATOR 1F12
AXLE-DRIVE 2B04
AXLE-STEERING 2D05
BLOCK-CYLINDER DIESEL 1C01
BLOCK-CYLINDER GASOLINE LPG 1B09
BRAKE 2C03
BRAKE-PARK 3003-3004
CAM-SHAFT/CRANK-SHAFT/PAN-OIL GASOLINE 1B01
CAM-SHAFT/CRANK-SHAFT/PAN-OIL DIESEL 1B02

HYDRAULIC 2E03-2E06
INDEX-NUMERICAL F03
INJECTION-FUEL DIESEL 2E07

INDEX - NUMERICAL

PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO
126	1012	3	15006	1C03	29	15127	1008	9	15156	1C03	29	15183	1A12	5
138	2408	14		1C04	6		1F08	7		1C04	26	15200	1012	6
	2801	12		1C07	25		1F08	30		1C06	21		1013	10
	2801	28		1E04	1	15132	1E06	22		1C06	42		1014	5
	2C06	33		1E04	27	15134	1E04	41		1C09	15		1E06	21
139	2408	12		1F12	45		1F06	16		1C09	16		2C03	12
	2801	13	15007	1C08	5	15135	2D07	33		1C09	17		2E09	7
	2801	25		1C08	6	15152	1006	15		1C07	23		2E12	7
	2C06	30	15008	2A06	29		1F04	22		1E04	1		2F02	7
142	1D14	17	15010	1B14	20		1F08	20		1E04	5	15211	2A08	13
			15015	2A10	12		1F10	11		1E04	27		2801	14
				1D12	10		3007	7		1E04	29		2801	26
							1B12	6		1E04	42		2C06	31
										1E04	32	15212	1A08	14
													1D12	11

INDEX-ILLUSTRATED

1. FRAME/COVERS/PARTS-MOUNTING 1A04
2. GEARS/SHAFTS 1R02
3. HYDRAULIC 1C02
4. OPTIONAL 1C02
5. INDEX-NUMERICAL 1002

MOTOR

LAST USED ON PENDING S/N PER ECN 96020 (SEE PAGE A03)

HYSTER COMPANY

USE HYSTER **APPROVED** PARTS... it pays

12/01/87

© 1987 HYSTER COMPANY

WHEN THE PART NUMBER AND THE NEXT HIGHER ASSEMBLY IS NOT KNOWN:

1. USE: DETERMINE THE FUNCTION AND APPLICATION OF THE PART REQUIRED. TURN TO THE ILLUSTRATED INDEX PAGE IMMEDIATELY BEHIND THE FRONT COVER, AND SELECT THE MOST APPROPRIATE AREA.
2. LINE UP THE BLACK ARROW CONTAINING THE APPROPRIATE REFERENCE NUMBER, WITH THE BLACK TAB ON THE DIVISION INDEX PAGE WITH THE SAME REFERENCE NUMBER. USE THE DIVISION INDEX TO DETERMINE THE ASSEMBLY WHICH WOULD NORMALLY CONTAIN THE PART REQUIRED. PROCEED THEN TO LOCATE THE PART ON THE ASSEMBLY BREAKDOWN PAGE.

WHEN THE PART NUMBER IS NOT KNOWN AND THE NEXT HIGHER ASSEMBLY IS KNOWN:

3. DETERMINE THE ASSEMBLY THE REQUIRED PART IS USED ON. TURN TO THE ALPHABETICAL INDEX IMMEDIATELY FOLLOWING THE ILLUSTRATED INDEX.
4. LOCATE THE ASSEMBLY THE REQUIRED PART IS USED ON AND TURN TO THE PAGE INDICATED FOR THAT ASSEMBLY. PROCEED THEN TO LOCATE THE PART ON THE ASSEMBLY BREAKDOWN PAGE.

WHEN THE PART NUMBER IS KNOWN:

5. USE THE NUMERICAL INDEX TO FIND THE PART NUMBER. TURN TO THE PAGE LISTED AND LOCATE THE PART AS INDICATED BY THE REFERENCE NUMBER

GENERAL:

- THE ASSEMBLY BREAKDOWNS INCLUDE PART NUMBERS, DESCRIPTION, QUANTITIES REQUIRED, KEYS AND FOOTNOTES TO HELP IN SELECTING THE CORRECT PARTS.
6. KEYS ARE USED TO SHOW EFFECTIVE SERIAL NUMBERS FOR TWO OR MORE SIMILAR ASSEMBLIES, RH AND LH ASSEMBLY PARTS, ETC. SELECT THE APPROPRIATE KEY, "A", "B", "C", OR "D" AND THE CORRESPONDING QUANTITY COLUMN TO FIND THE REQUIRED PARTS.
 7. INDENT NUMBERS ARE USED TO INDICATE ASSEMBLIES AND SUBPARTS OF ASSEMBLIES. NUMBER 1 IS THE MAJOR ASSEMBLY. PART DESCRIPTIONS WHICH ARE INDENTED UNDER 2, 3, OR 4 ARE SUB-PARTS OF THE MAJOR ASSEMBLY SHOWN ABOVE.
 8. QUANTITIES SHOWN ARE FOR ONE ASSEMBLY. NOTE THAT TWO ASSEMBLIES ARE SHOWN, BUT THE QUANTITIES OF THE SUBPARTS ARE INDICATED AS THREE AND THREE. THIS MEANS THREE PER ASSEMBLY.
 9. ENGINEERING CHANGE NOTICE (ECN) NUMBERS FOR PENDING SERIAL NUMBERS ARE SHOWN TO ALLOW FOR THE MOST CURRENT PARTS INFORMATION TO BE INCORPORATED INTO THE PARTS MANUAL. CONTACT YOUR LOCAL HYSTER DEALER FOR SERIAL NUMBER INFORMATION LISTED BY ECN NUMBER.

ORDERING PARTS:

WHEN ORDERING REPLACEMENT PARTS, GIVE THE UNIT SERIAL NUMBER, PART NUMBER, NAME OF PART AND QUANTITY REQUIRED.

FOR ANY FURTHER INFORMATION ON PARTS, SERVICE, OR ORDERING, CONSULT YOUR LOCAL HYSTER DEALER

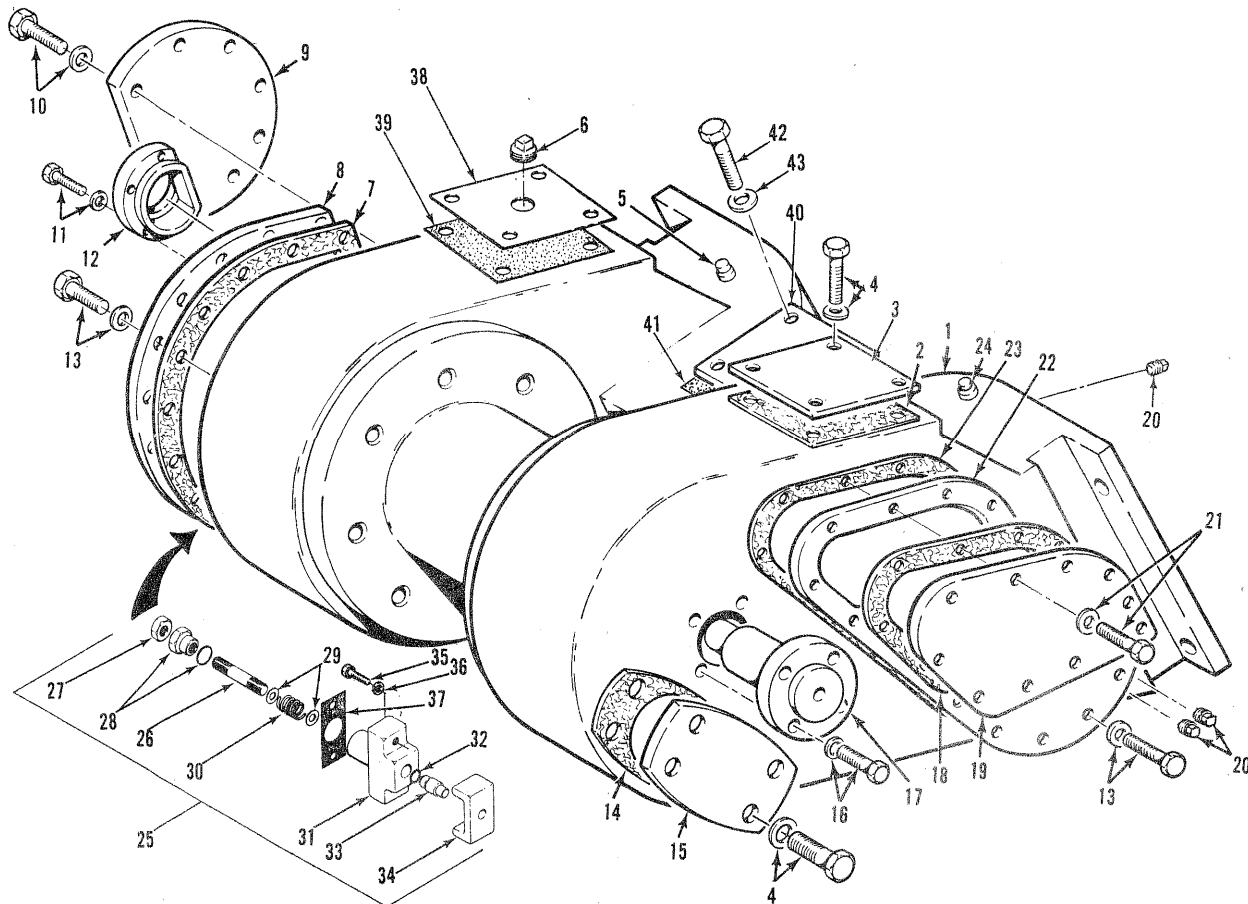
FRAME/COVERS/PARTS-MOUNTING

DECALS/PAINT_____1A11

FRAME/COVERS_____1A05

PARTS-MOUNTING_____1A06-1A10

FRAME/COVERS

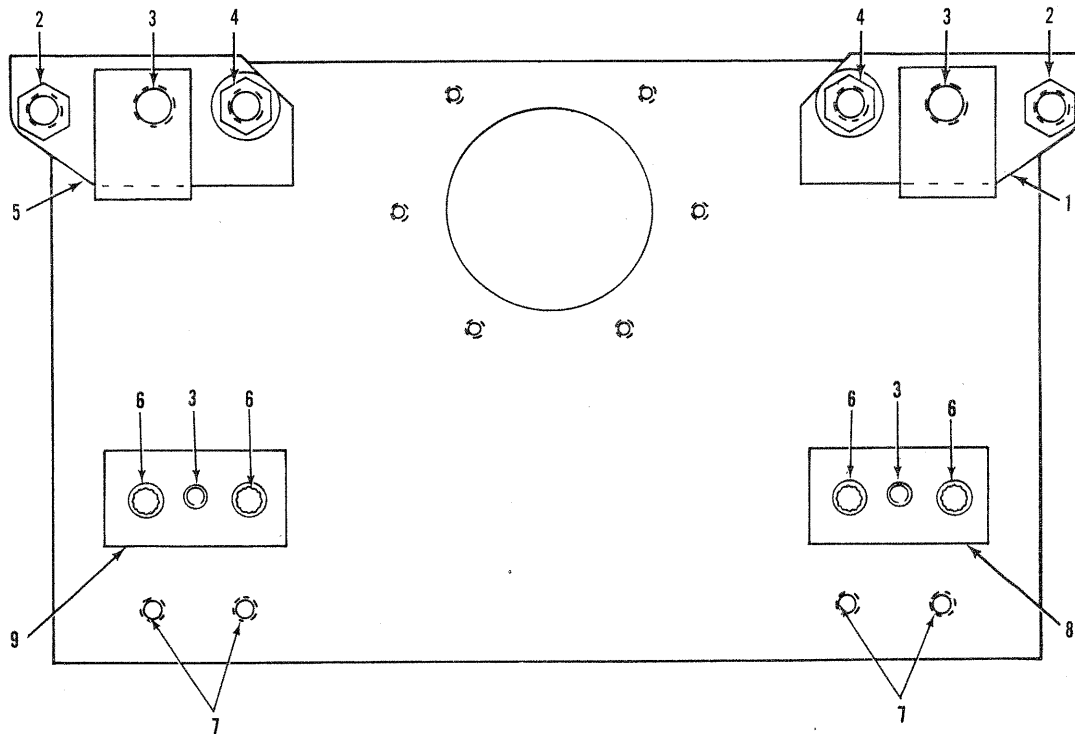


REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	.....	FRAME	1
2	307743	GASKET-COVER	1
3	307742	COVER-TOP	1
3	\$ 354421	COVER-TOP	1
4	178403	CAPSCREW	12
4	% 178403	CAPSCREW	16
4	15158	LOCKWASHER	12
4	% 15158	LOCKWASHER	16
5	15306	FITTING	1
5	\$ 15306	FITTING	2
6	15305	FITTING	1
6	% 15304	FITTING	1
7	++ 307787	GASKET-COVER	1
8	307645	COVER-LH	1
8	* 360990	COVER-LH	1
9	.....	BRAKE SEE 1B08	1
10	307788	CAPSCREW	7
10	15158	LOCKWASHER	7
11	336870	CAPSCREW	4
11	15156	LOCKWASHER	4
12	.....	CARRIER SEE 1B03-1B05	1
13	179443	CAPSCREW	28
13	15156	LOCKWASHER	28
14	++ 307720	GASKET-COVER	1
15	307718	COVER-STRAINER	1
16	178403	CAPSCREW	4
16	15158	LOCKWASHER	4
17	.....	SHAFT-DRUM SEE 1B09	1
18	++ 322147	GASKET-COVER	1
19	322145	COVER-VALVE	1
20	15303	FITTING	3

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
21	252928	CAPSCREW	7
21	15156	LOCKWASHER	7
22	320230	COVER-RH	1
23	++ 320231	GASKET-COVER	1
24	21420	PLUG-BREATH	1
25	* 360989	DRAG-FREESPOOL	1
26	* 221027	SCREW	1
27	* 15011	NUT-JAM	1
28	* 360984	PLUG-ALTERED	1
29	&* 15127	WASHER	2
29	# 221763	WASHER-FLAT	2
30	&* 360991	SPRING	1
30	# 379495	SPRING	1
31	* 360992	BLOCK	1
32	* 15860	O-RING	1
33	* 360985	PLUNGER	1
34	* 360986	SHOE	1
35	* 209071	CAPSCREW	2
36	* 15155	LOCKWASHER	2
37	* 360987	GASKET	1
38	% 344841	COVER	1
39	% 344842	GASKET	1
40	@ 354436	COVER-XMSN	1
41	@ 354437	GASKET-XMSN	1
42	@ 178403	CAPSCREW	2
43	@ 15158	LOCKWASHER	2
++ INCLUDED IN GASKET KIT 291736			
\$ CATERPILLAR 518 SKIDDER			
@ FIRST USED ON S/N W3A-1729A11			
% FIRST USED ON S/N W3A-1801A11			
* FIRST USED ON S/N W3A-1820C12			
& LAST USED ON S/N W3A-1830A11			
# FIRST USED ON S/N W3A-1831A11			

PARTS-MOUNTING

INTERNATIONAL TD7E AND TD8E

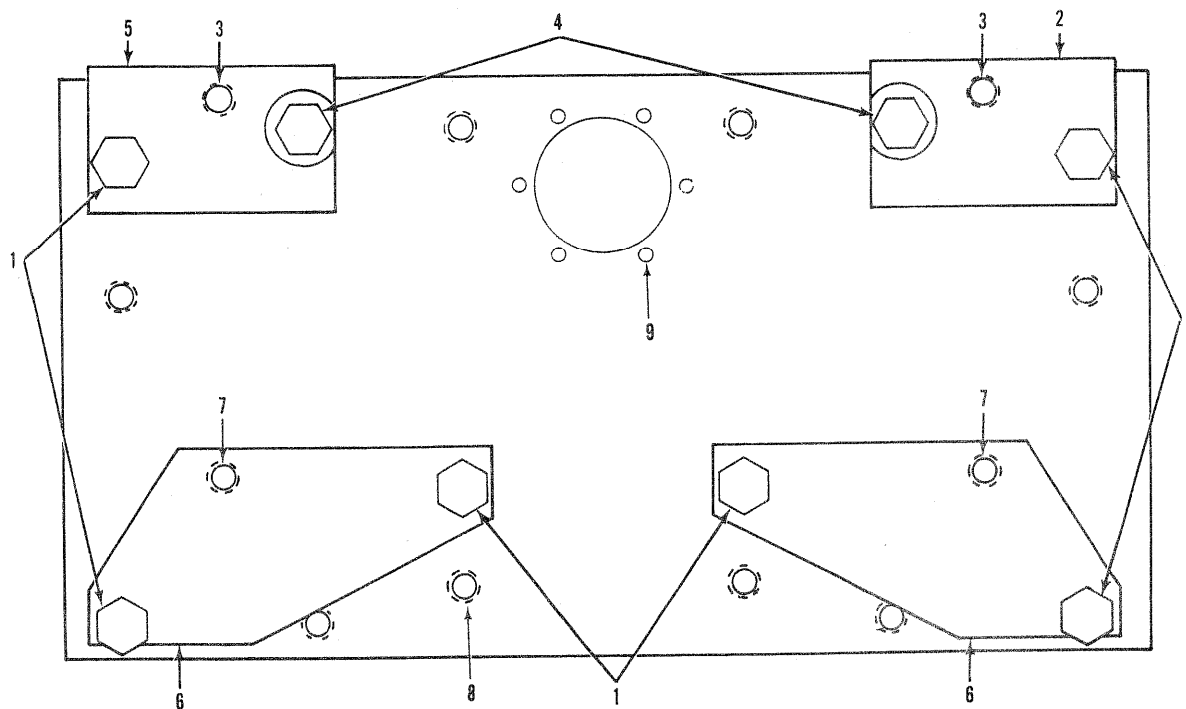


REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	+ 358030	BLOCK-MTG	1
2	* 53157	LOCKNUT	2
2	% 221371	LOCKNUT	4
2	* 221780	WASHER-FLAT	2
3	* 354440	STUD	2
3	+% 354449	STUD	4
3	* 221777	WASHER-FLAT	2
4	+ 291727	STUD	2
4	15017	NUT	2
4	18404	LOCKWASHER	2
5	+ 358029	BLOCK-MTG	1
6	* 291726	STUD	2

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
6	%+ 358031	CAPSCREW	2
6	* 248320	LOCKNUT	2
6	* 15162	LOCKWASHER	2
7	87242	PLUG	4
8	+ 358028	BLOCK-MTG	1
9	* 358028	BLOCK-MTG	1
9	+% 358027	BLOCK-MTG	1
+ USE LOCTITE PRIMER 226415 AND COMPOUND 226414			
* LAST USED ON S/N W3A-1700			
% FIRST USED ON S/N W3A-1701			

PARTS-MOUNTING

CATERPILLAR D3



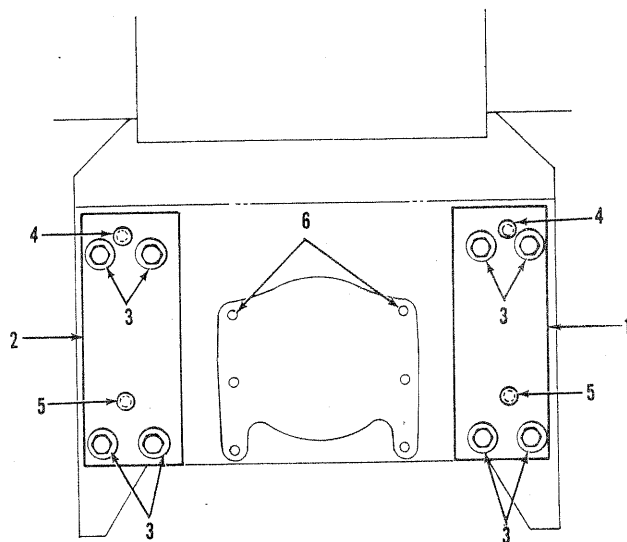
REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	+ 15783	CAPSCREW	6
1	15166	LOCKWASHER	6
2	358034	BLOCK-MTG	1
3	+* 354440	STUD	2
3	+* 354449	STUD	2
3	* 53157	LOCKNUT	2
3	% 221371	LOCKNUT	2
3	* 221780	WASHER-FLAT	2
4	+ 18665	CAPSCREW	2
4	15166	LOCKWASHER	2
5	358035	BLOCK-MTG	1
6	358036	BLOCK-MTG	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
7	+* 338847	STUD	2
7	+* 354449	STUD	2
7	* 248320	LOCKNUT	2
7	% 221371	LOCKNUT	2
7	* 221777	WASHER-FLAT	2
8	18005	PLUG	8
9	18003	PLUG	6

+ USE LOCTITE PRIMER 226415 AND COMPOUND 226414
 * LAST USED ON S/N W3A-1700
 % FIRST USED ON S/N W3A-1701

PARTS-MOUNTING

FIAT-ALLIS FD5 AND FD7



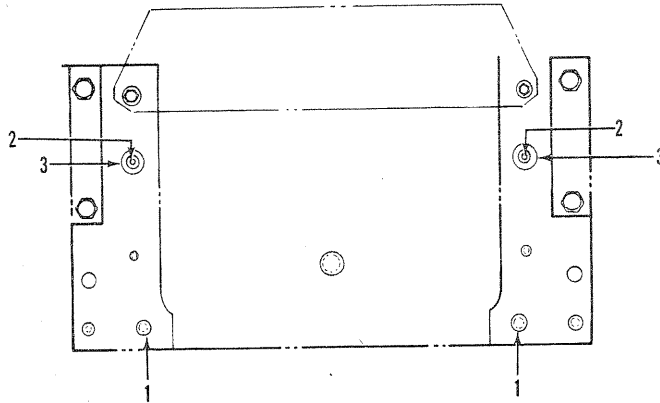
REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	+ 338826	BLOCK-MTG RH	1
1	* 346513	BLOCK-MTG RH	1
1	% 358038	BLOCK-MTG RH	1
2	+ 338827	BLOCK-MTG LH	1
2	* 346512	BLOCK MTG LH	1
2	% 358039	BLOCK-MTG LH	1
3	338828	CAPSCREW	8
3	292687	LOCKWASHER	8
4	354440	STUD	2

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
4	% 354449	STUD	2
5	338847	STUD	2
5	% 354449	STUD	2
6	18004	PLUG	6

+ LAST USED ON S/N W3AP-1615
* USED ON S/N W3AP-1616 THRU W3AP-1700
% FIRST USED ON S/N W3AP-1701

PARTS-MOUNTING

JOHN DEERE



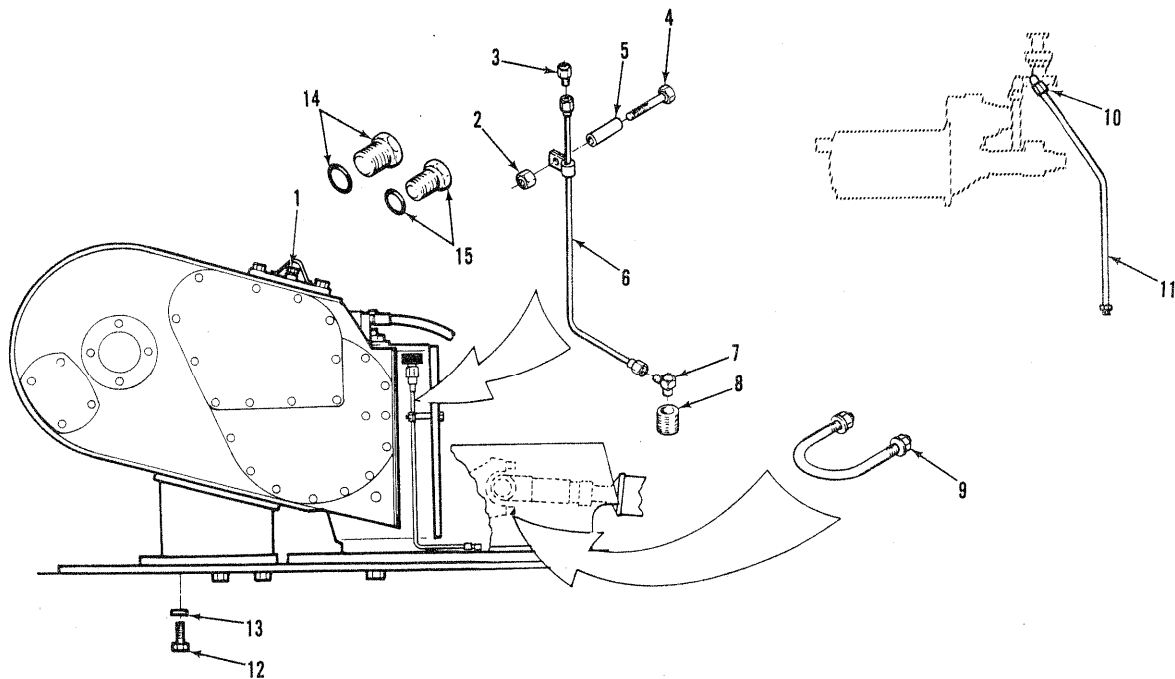
REF NO	HYSTER PART NO	NAME OF PART				QTY
		1	2	3	4	
1	* 321408	STUD				2
2	* 360390	STUD				2
3	360389	DOWEL				2

REF NO	HYSTER PART NO	NAME OF PART				QTY
		1	2	3	4	

* USE LOCTITE PRIMER 226415 AND COMPOUND 226414						

PARTS-MOUNTING

CATERPILLAR 518 SKIDDER

**KEY**

A-CATERPILLAR S/N 50S3202 AND 55U662 TO 94U AND 95U

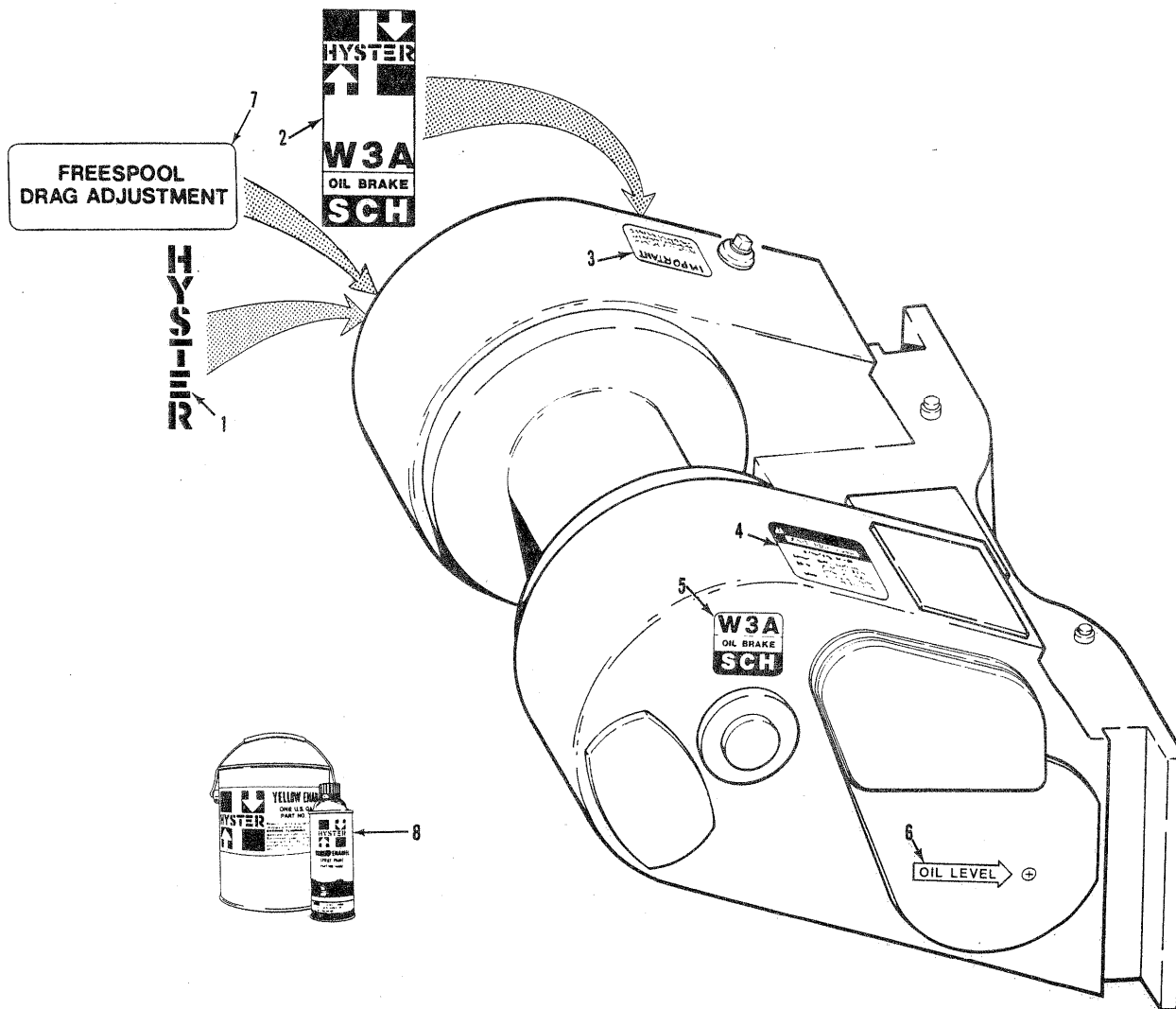
B-CATERPILLAR S/N 94U AND 95U AND UP

REF NO	HYSTER PART NO	NAME OF PART				QTY	
		1	2	3	4	A	B
1	21420	PLUG-BREATHER				1	1
2	221351	NUT				1	..
3	14713	FITTING				1	..
4	18514	CAPSCREW				1	..
5	354430	SPACER				1	..
6	354431	TUBE				1	..
7	15372	FITTING				1	..
8	14516	FITTING				1	..
9	354428	U-BOLT				2	2
10	14504	FITTING				1	..
11	354432	TUBE				1	..

REF NO	HYSTER PART NO	NAME OF PART				QTY	
		1	2	3	4	A	B
12	+ 221657	CAPSCREW				10	..
12	+ 169337	CAPSCREW				..	10
13	+ 15162	LOCKWASHER				10	..
14	14592	PLUG				..	1
14	16482	O-RING				..	1
15	14589	PLUG				..	1
15	16480	O-RING				..	1

+ USE LOCTITE PRIMER 226415 AND
COMPOUND 226414

DECALS/PAINT



REF NO	HYSTER PART NO	NAME OF PART	QTY
1	230549	DECAL-HYSTER	1
2	291733	DECAL-MODEL LH	1
3	291735	PLATE-CAUTION	1
4	291734	DECAL	1
5	291732	DECAL-MODEL RH	1
6	261155	DECAL-OIL LEVEL	1

REF NO	HYSTER PART NO	NAME OF PART	QTY
7	* 360995	DECAL-ADJUST	1
8	317226	PAINT-YEL 1 GAL	AR
8	317225	PAINT-YEL SPRAY	AR

* FIRST USED ON S/N W3A-1820C12

NOTE: WINCH IS TO BE PAINTED YELLOW
WITH THE FOLLOWING EXCEPTIONS:

BLACK

HANDLING GEAR

DO NOT PAINT

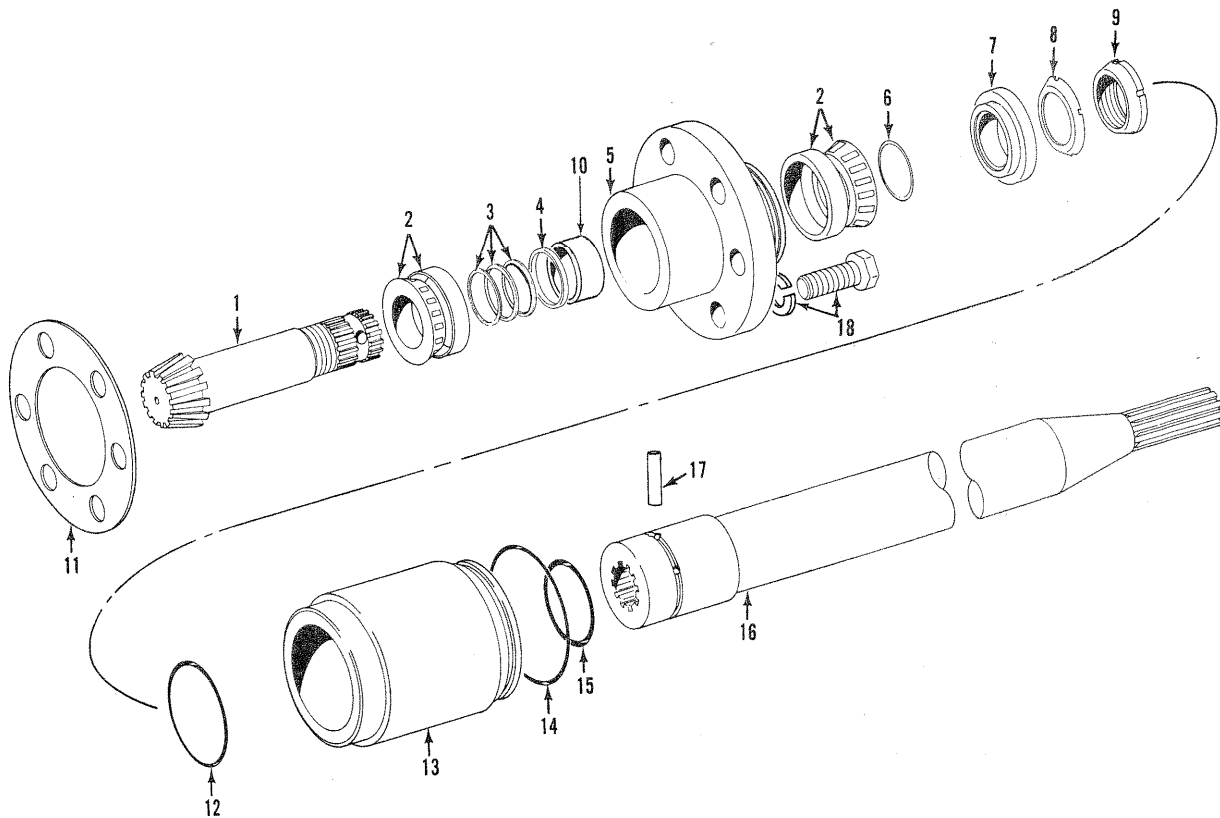
NAMEPLATE AND DECALS
PUSH/PULL CABLE
HANDLEVER KNOBS

GEARS/SHAFTS

BRAKE_____1B08
CLUTCH_____1B07
SHAFT-REVEL GEAR_____1B06
SHAFT-DRUM_____1B09
SHAFT-INTERMEDIATE GEAR_____1B10
SHAFT-PTO_____1B03-1B05

SHAFT-PTO

CATERPILLAR D3 AND INTERNATIONAL TD7E AND TD8E



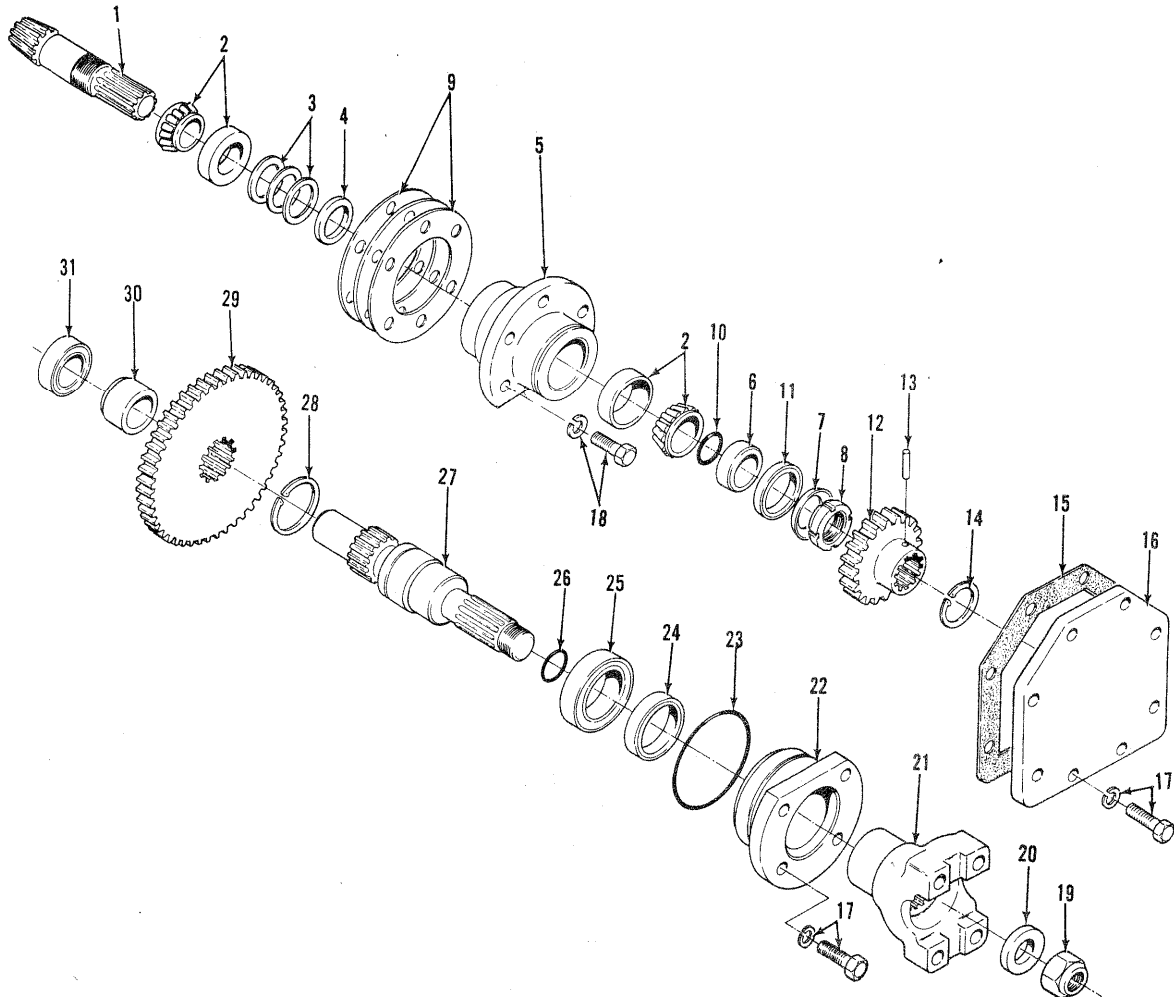
KEY
 A-CATERPILLAR D3
 B-INTERNATIONAL TD7E AND TD8E

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY	
			A	B
1	.....	SET-GEAR SEE 1B06	1	1
2	276440	CUP-BEARING	2	2
2	276439	CONE-BEARING	2	2
3	307708	SHIM-.005	AR	AR
3	307709	SHIM-.007	AR	AR
3	307710	SHIM-.020	AR	AR
4	307696	SPACER	1	1
5	307692	CARRIER	1	1
6	39357	O-RING	1	1
7	44495	SEAL-OIL	1	1
8	10388	LOCKWASHER	1	1
9	10387	NUT	1	1
9	226414	ADHESIVE	AR	AR
10	307697	SPACER	1	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY	
			A	B
11	307703	SHIM-.005	AR	AR
11	307704	SHIM-.007	AR	AR
11	307707	SHIM-.020	AR	AR
12	15881	O-RING	1	1
13	317770	CARRIER-ADAPTER	1	..
13	307682	CARRIER-ADAPTER	..	1
14	15887	O-RING	1	..
14	15893	O-RING	..	1
15	9554	RING-LOCK	1	1
16	317769	SHAFT	1	..
16	312957	SHAFT	..	1
17	222715	PIN-DOWEL	1	1
18	182209	CAPSCREW	6	6
18	15158	LOCKWASHER	6	6

SHAFT-PTO

CATERPILLAR 518 SKIDDER



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	.....	SET-GEAR SEE 1B06	1
2	276440	CUP-BEARING	2
2	276439	CONE-BEARING	2
3	307708	SHIM-.005	AR
3	307709	SHIM-.007	AR
3	307710	SHIM-.020	AR
4	+ 307696	SPACER	1
4	* 379494	SPACER	1
5	+ 346514	CARRIER	1
5	* 379492	CARRIER	1
6	+ 307697	SPACER	1
7	10388	LOCKWASHER	1
8	10387	NUT-LOCK	1
8	226414	ADHESIVE	AR
9	307703	SHIM-.005	AR
9	307704	SHIM-.007	AR
9	307707	SHIM-.020	AR
10	39357	O-RING	1
11	44495	SEAL-OIL	1
12	& 354418	GEAR	1
12	@ 358980	GEAR	1
12	\$ 354418	GEAR	1
13	222714	PIN-DOWEL	1
14	.....	RING-SNAP	1
15	354420	GASKET-COVER	1
16	354419	PLATE-COVER	1
17	252928	CAPSCREW	12

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
17	15156	LOCKWASHER	12
18	18588	CAPSCREW	5
18	15158	LOCKWASHER	5
19	248320	LOCKNUT	1
20	267006	WASHER	1
21	354417	YOKE	1
22	354416	CARRIER	1
23	55468	O-RING	1
24	77692	SEAL-OIL	1
25	44307	BEARING	1
26	15862	O-RING	1
26	280472	SEALANT	AR
27	354415	SHAFT	1
28	58941	RING-SNAP	1
29	& 298591	GEAR	1
29	@ 358981	GEAR	1
29	\$ 298591	GEAR	1
30	344847	SPACER	1
31	44306	BEARING	1

& LAST USED ON S/N W3A-1725C12

@ FIRST USED ON S/N W3A-1726C12

% CATERPILLAR 518 S/N 50S3202 AND 55U662 TO 94U AND 95U

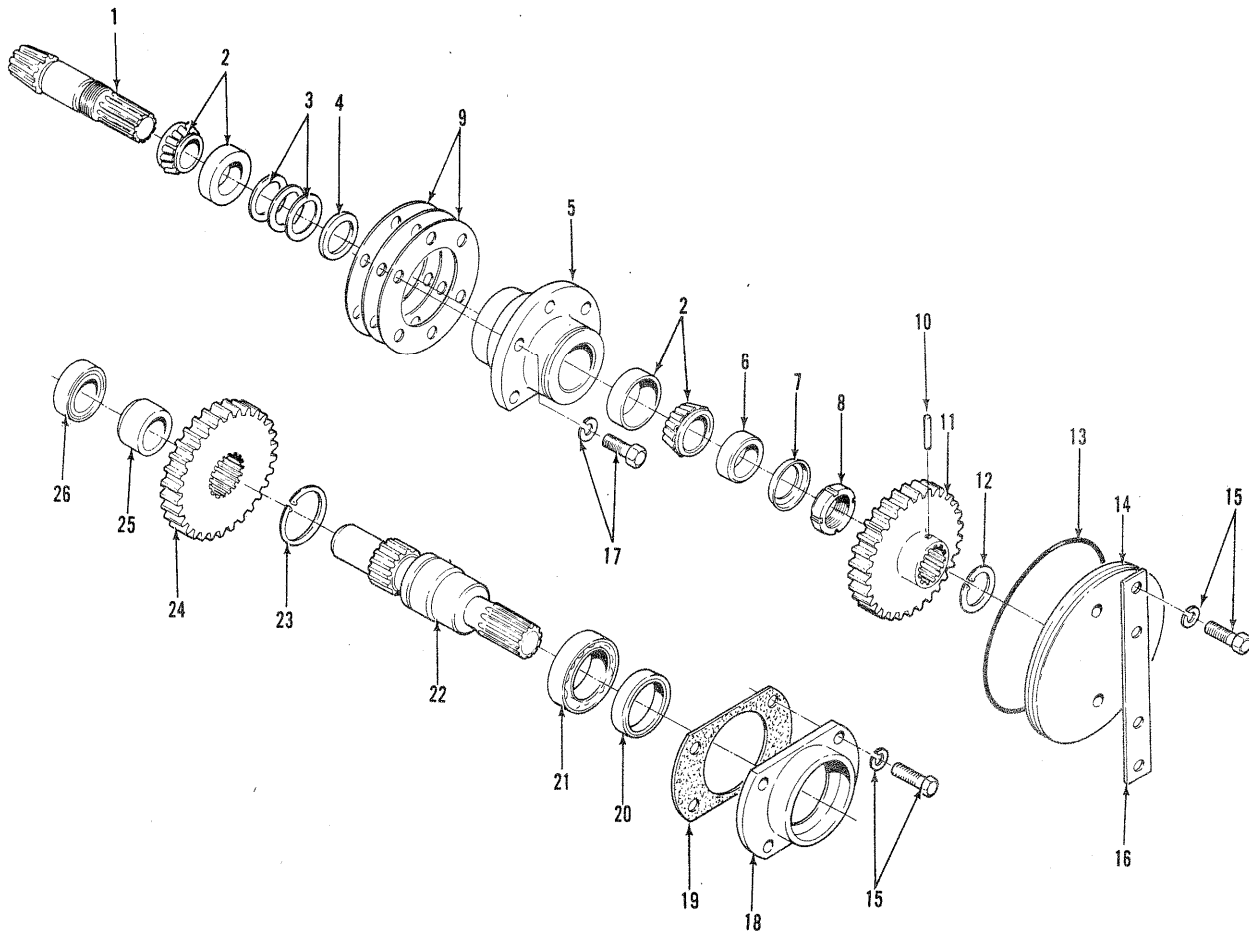
\$ CATERPILLAR 518 S/N 94U AND 95U AND UP
FIRST USED ON S/N W3A-1867

+ LAST USED ON S/N W3A-1878A11

* FIRST USED ON S/N W3A-1879A11

SHAFT-PTO

FIAT-ALLIS FD5 AND FD7 JOHN DEERE 450 AND 550



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	.....	SET-GEAR SEE 1B06	1
2	276440	CUP-BEARING	2
2	276439	CONE-BEARING	2
3	307708	SHIM-.005	AR
3	307709	SHIM-.007	AR
3	307710	SHIM-.020	AR
4	& 307696	SPACER	1
4	\$ 379494	SPACER	1
5	& 346514	CARRIER	1
5	\$ 379492	CARRIER	1
6	& 307697	SPACER	1
7	10388	LOCKWASHER	1
8	10387	NUT-LOCK	1
8	226414	ADHESIVE	AR
9	307703	SHIM-.005	AR
9	307704	SHIM-.007	AR
9	307709	SHIM-.007	AR
10	222714	PIN-DOWEL	1
11	346511	GEAR-30T	1
12	.....	RING-SNAP	1
13	90937	O-RING	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
14	346501	COVER	1
15	252928	CAPSCREW	8
15	15156	LOCKWASHER	8
16	346502	RETAINER-COVER	1
17	18588	CAPSCREW	5
17	15158	LOCKWASHER	5
18	346510	CARRIER	1
19	346507	GASKET	1
20	77692	SEAL-OIL	1
21	44311	BEARING	1
22	* 346509	SHAFT-PTO	1
22	% 379489	SHAFT-PTO	1
23	58924	RING-SNAP	1
24	344848	GEAR-30T	1
25	344847	SPACER	1
26	44306	BEARING	1

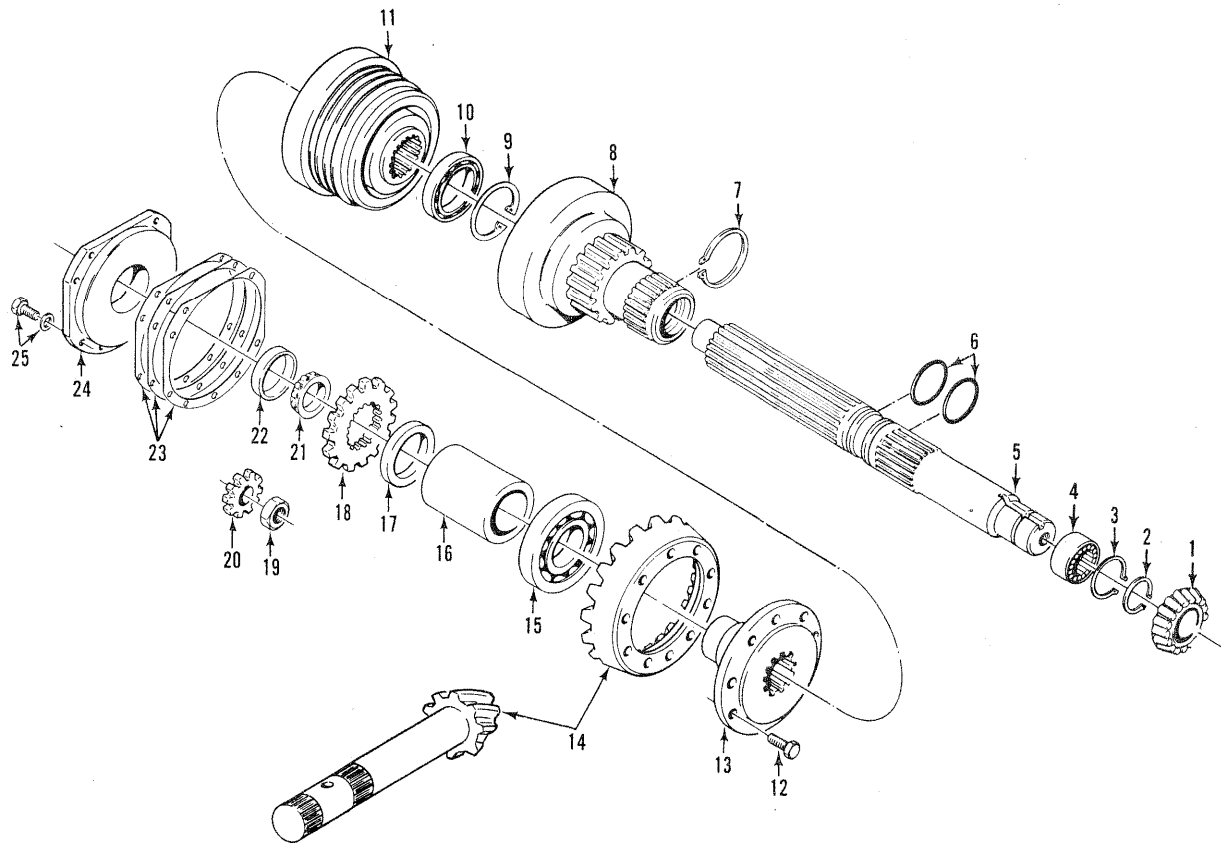
* FIAT-ALLIS

% JOHN DEERE

& LAST USED ON S/N W3A-1878A11

\$ FIRST USED ON S/N W3A-1879A11

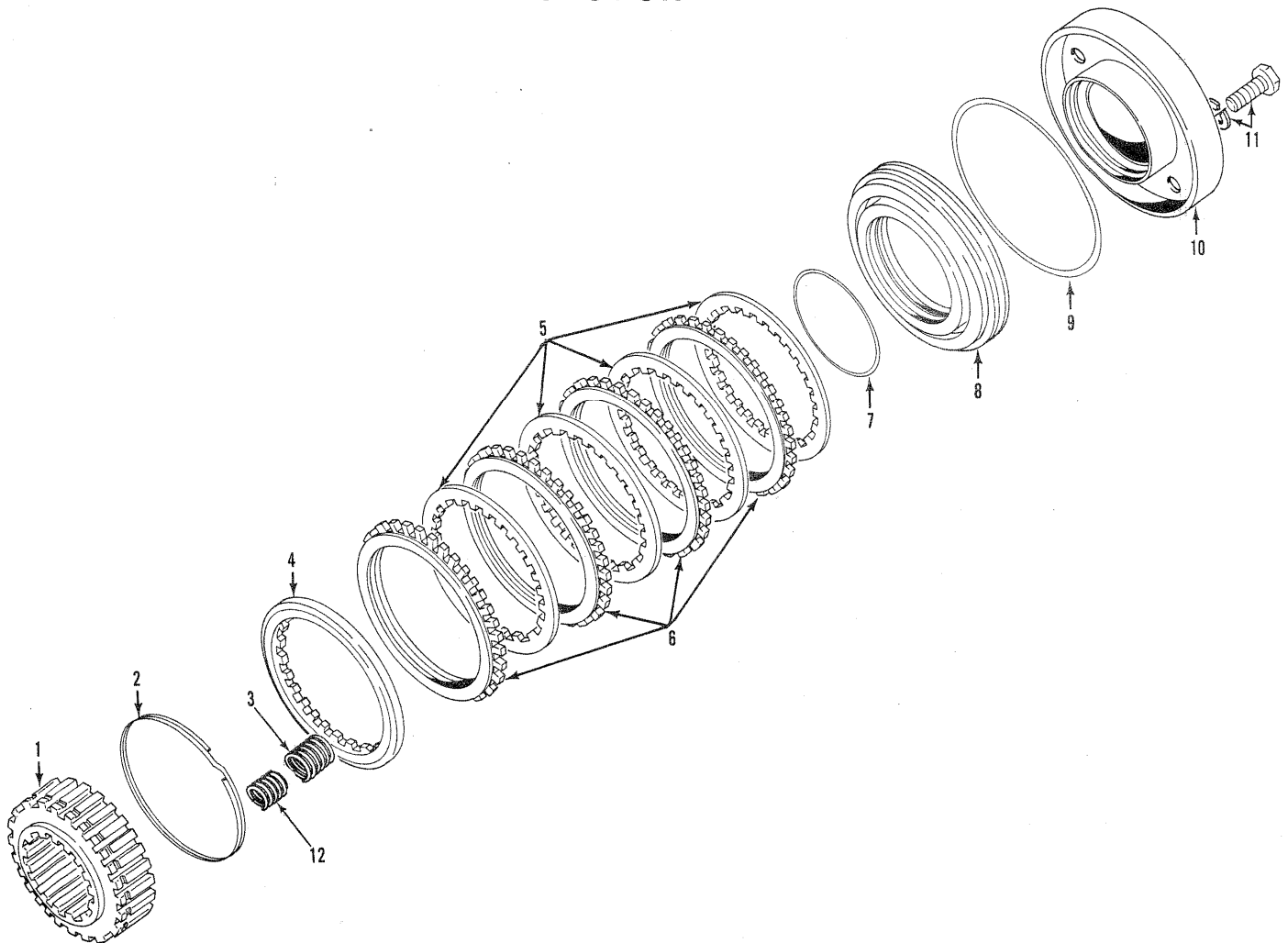
SHAFT-BEVEL GEAR



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	30286	CONE-BEARING	1
2	58931	RING-SNAP	1
3	58921	RING-SNAP	1
4	14174	BEARING	1
5	307642	SHAFT-GEAR	1
6	39442	O-RING	2
7	139405	RING-SNAP	1
8	\$+ 307616	GEAR-CLUTCH	1
8	\$% 307620	GEAR-CLUTCH	1
8	@# 307618	GEAR-CLUTCH	1
9	58924	RING-SNAP	1
10	44311	BEARING	1
11	.....	CLUTCH	1
		SEE 1807	
12	221496	CAPSCREW	10
12	226414	ADHESIVE	AR
13	307624	HUB-GEAR	1
14	388596	SET-BEVEL GEAR	1
14	.....	GEAR-RING	1
14	.....	PINION	1
15	41214	BEARING-BALL	1
16	307639	SPACER	1
17	307640	SPACER	1
18	18%+\$ 307621	GEAR-60T	1
18	@ 358982	GEAR-57T	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
18	\$ 373636	GEAR-67T	1
19	221353	LOCKNUT	1
20	20%+\$ 307622	GEAR-10T	1
20	@ 358983	GEAR-13T	1
20	\$ 373637	GEAR-17T	1
21	307772	CONE-BEARING	1
22	307771	CUP-BEARING	1
23	320227	SHIM-.005	AR
23	320228	SHIM-.007	AR
23	320229	SHIM-.020	AR
24	320225	CARRIER-BRG	1
25	16805	CAPSCREW	8
25	15156	LOCKWASHER	8
		+ 30/1 GEAR RATIO	
		% 50/1 GEAR RATIO	
		# 40/1 GEAR RATIO	
		@ 40/1 GEAR RATIO WITH 57/13 PUMP GEAR	
		\$ LAST USED ON S/N W3A-1725C12	
		CATERPILLAR 518 SKIDDER	
		@ FIRST USED ON S/N W3A-1726C12	
		CATERPILLAR 518 SKIDDER	
		\$ 40/1 GEAR RATIO WITH 67/17 PUMP GEAR	
		FIRST USED ON S/N W3A-1867	

CLUTCH

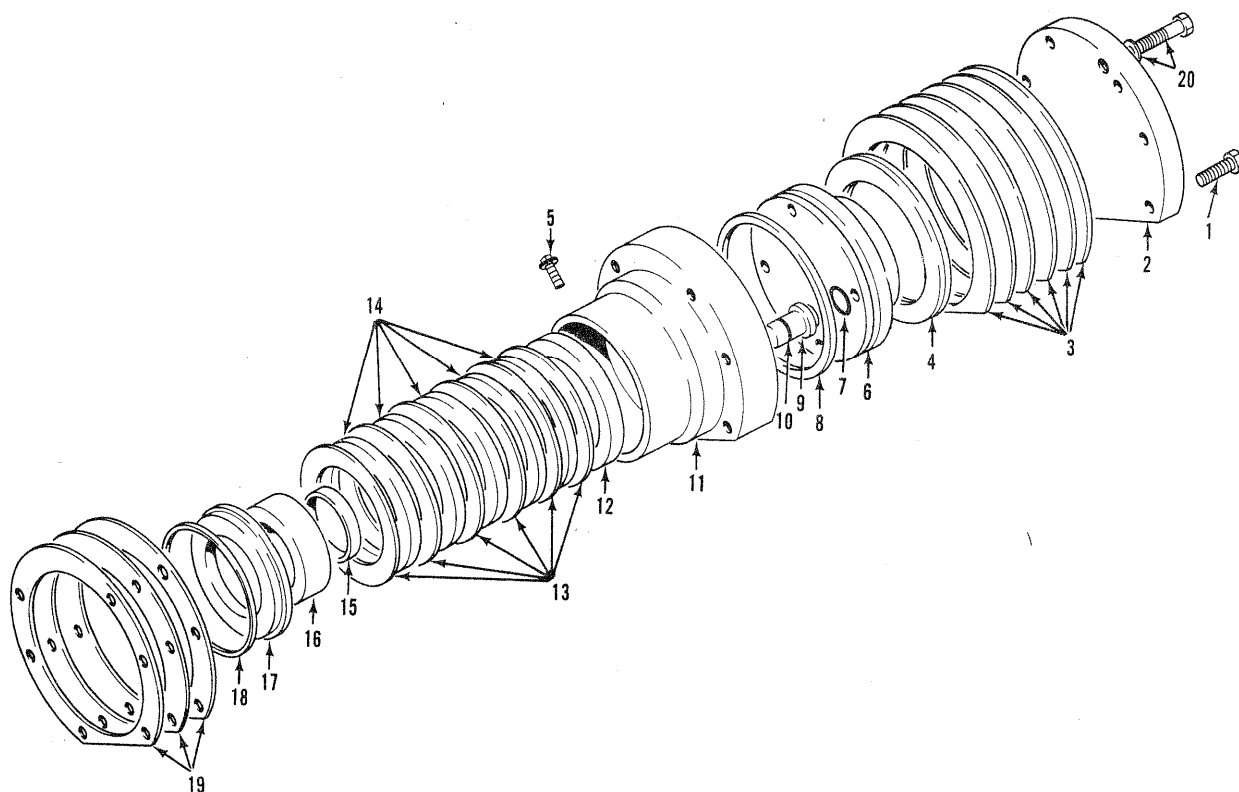


REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
	312952	CLUTCH	1
1	307636	HUB-CLUTCH	1
2	219060	RING-SNAP	1
3	347024	SPRING	16
3	\$ 369503	SPRING	16
4	282706	RING	1
5	282704	PLATE-SEPARATOR	4
6	328714	DISC-FRICTION	4
7	15883	O-RING	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
8	307637	PISTON-CLUTCH	1
9	87287	O-RING	1
10	321252	HOUSING-PISTON	1
11	246770	CAPSCREW	6
11	177946	LOCKWASHER	6
12	\$ 369504	SPRING	16

\$ FIRST USED ON S/N W3A-1875H11

BRAKE

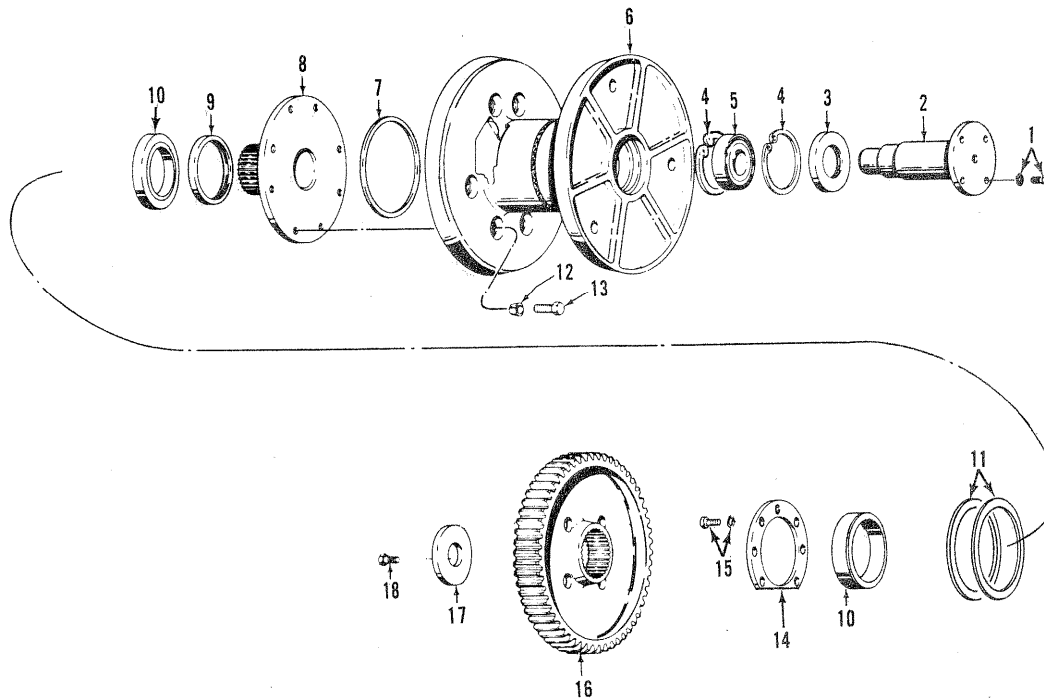


REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
	321253	BRAKE	1
1	16828	CAPSCREW	2
2	321257	COVER-BRAKE	1
3	321264	SHIM	AR
3	* 383890	SHIM	AR
3	226414	ADHESIVE	AR
4	219084	SPRING	2
5	15302	FITTING	1
6	\$ 379455	PISTON	1
6	381197	PISTON	1
7	63105	O-RING	4
8	219096	RING-SEAL	1
9	379454	PLUNGER	4
10	15860	O-RING	4
11	321251	HOUSING	1
12	219081	RING	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
13	328714	DISC-FRICTION	6
14	282704	PLATE-SEPARATOR	5
15	30287	CUP-BEARING	1
16	321259	HUB	1
17	219082	RING	1
18	219092	RING-SNAP	1
19	321261	SHIM-.005	AR
19	321262	SHIM-.007	AR
19	321263	SHIM-.020	AR
19	226414	ADHESIVE	AR
20	307788	CAPSCREW	7
20	15158	LOCKWASHER	7

* FIRST USED ON S/N W3A-1820C12
\$ LAST USED ON S/N W3A-1838

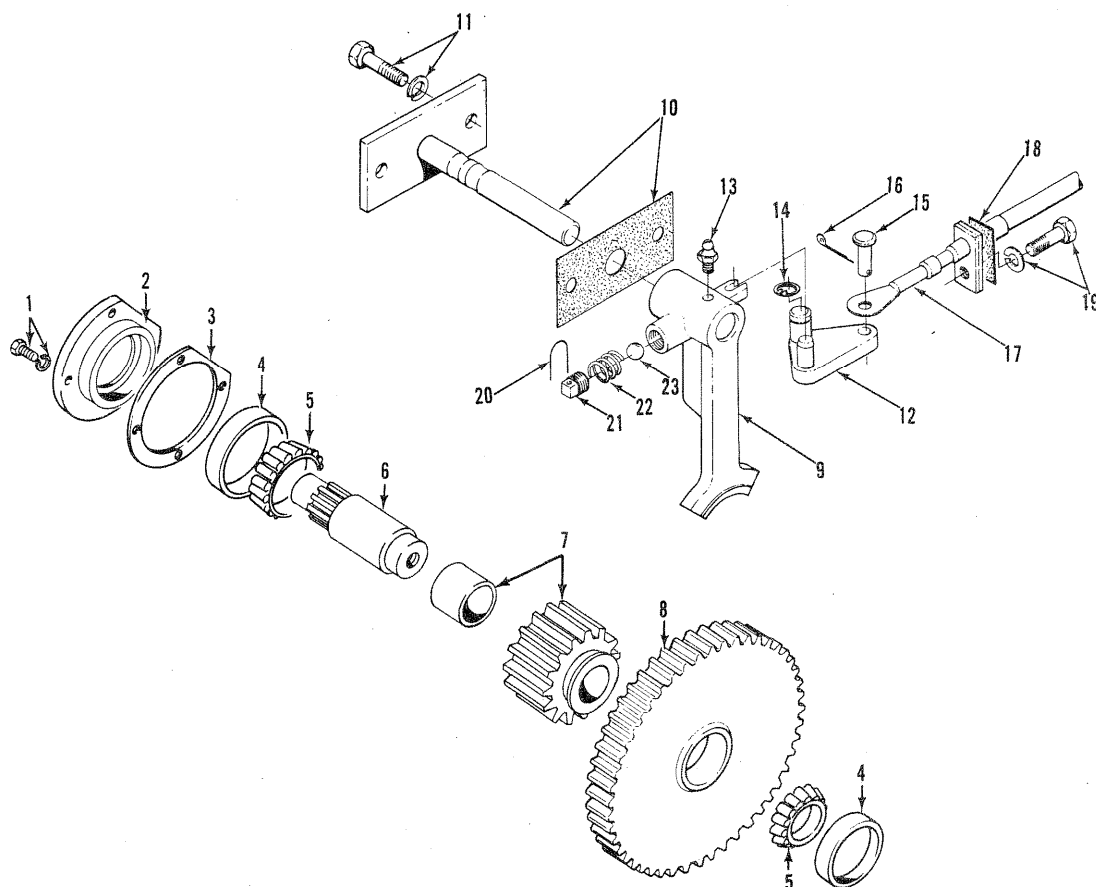
SHAFT-DRUM



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	178403	CAPSCREW	4
1	15158	LOCKWASHER	4
2	307608	SHAFT	1
3	44478	SEAL	1
4	67551	RING-SNAP	2
5	307612	BEARING-ROLLER	1
6	* 307722	DRUM	1
6	% 360982	DRUM	1
7	18975	O-RING	1
8	307611	ADAPTER	1
8	+ 388587	ADAPTER	1
9	125689	SEAL	1
10	307749	BEARING	1
11	@ 291744	SHIM-.005	AR
11	@ 291745	SHIM-.007	AR
12	153778	THIMBLE	8
13	307796	CAPSCREW	8

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
14	307785	RETAINER-BRG	1
15	159708	CAPSCREW	7
15	15156	LOCKWASHER	7
16	307614	GEAR-DRUM	1
16	\$ 354445	GEAR-DRUM	1
16	# 383908	GEAR-DRUM	1
17	307783	PLATE-RETAINER	1
17	+ 339502	PLATE-RETAINER	1
18	221560	CAPSCREW	3
18	+ 250780	CAPSCREW	1
# OPTIONAL			
* 7 INCH DRUM			
% 8.5 INCH DRUM			
+ FIRST USED ON S/N W3A-1512			
\$ FIRST USED ON S/N W3A-1726C12			
@ LAST USED ON S/N W3A-1819C12			

SHAFT-INTERMEDIATE GEAR



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY	REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	336870	CAPSCREW	4	14	58903	RING-SNAP	1
1	15156	LOCKWASHER	4	15	139	PIN	1
2	307735	CARRIER-SHAFT	1	16	15212	PIN-COTTER	1
3	307736	SHIM-.005	AR	17	.....	CABLE-FREESPOOL SEE 1C10-1C11	1
3	307737	SHIM-.007	AR	18	% 303946	GASKET	1
3	307738	SHIM-.020	AR	19	178402	CAPSCREW	1
4	319401	CUP-BEARING	2	19	15158	LOCKWASHER	1
5	342430	CONE-BEARING	2	20	67355	WIRE	1
6	& 307628	SHAFT	1	21	46578	PLUG-PIPE	1
6	354443	SHAFT	1	22	266846	SPRING	1
7	& 307630	GEAR	1	23	6348	BALL	1
7	354444	GEAR	1				
7	& 307629	BUSHING	1				
8	\$+ 307615	GEAR-INTER	1				
8	\$* 307619	GEAR-INTER	1				
8	# 307617	GEAR-INTER	1				
9	307661	FORK-SHIFTER	1				
10	307666	SHAFT	1				
10	++ 344840	SHIM	AR				
11	179443	CAPSCREW	2				
11	15156	LOCKWASHER	2				
12	@ 307669	CRANK	1				
12	344844	CRANK	1				
13	@ 307670	STUD-BALL	1				

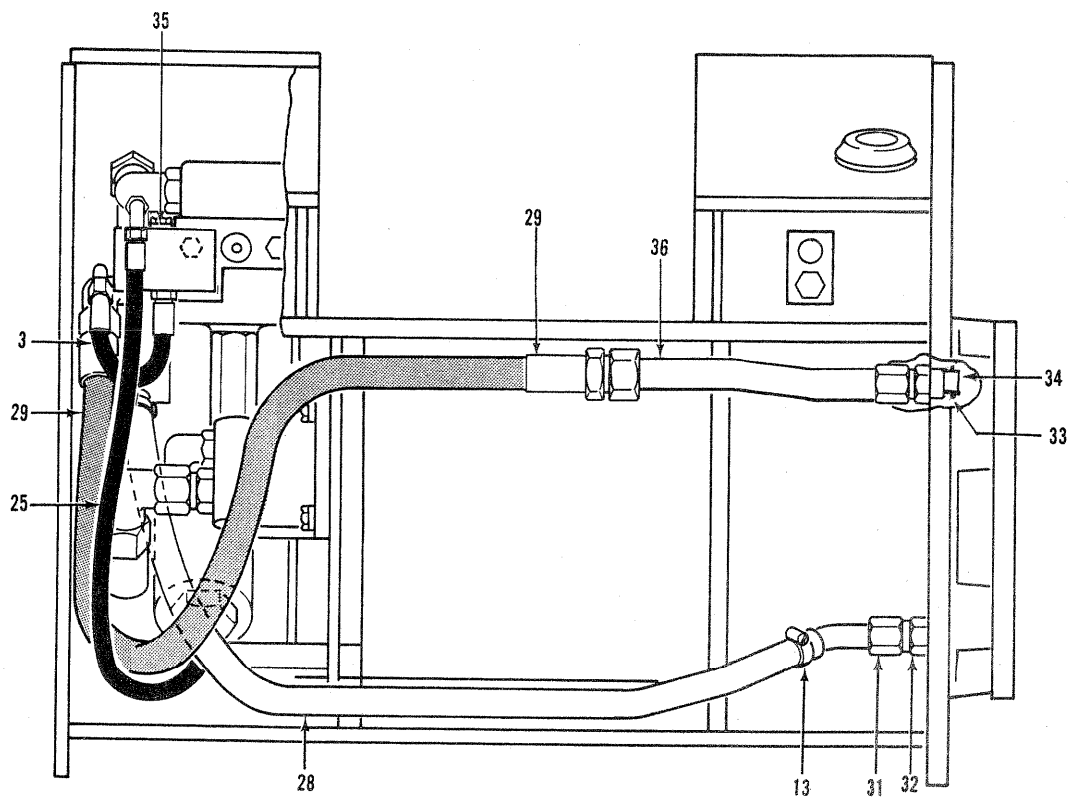
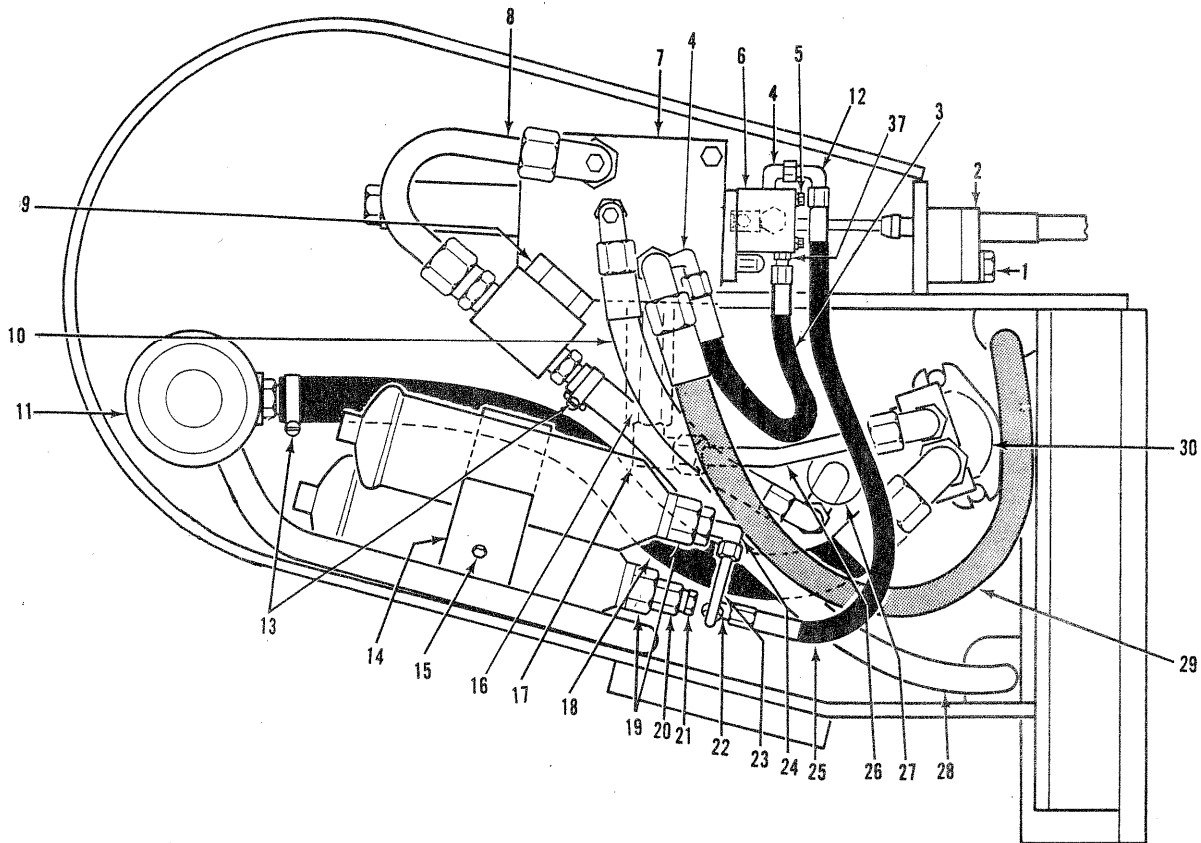
+ 30/1 GEAR RATIO
 * 50/1 GEAR RATIO
 % INCLUDED IN GASKET KIT 291736
 # 40/1 GEAR RATIO CATERPILLAR 518 SKIDDER
 FIRST USED ON S/N W3A-1726C12
 @ LAST USED ON S/N W31-1618
 & LAST USED ON S/N W3A-1725C12
 \$ LAST USED ON S/N W3A-1725C12 FOR
 CATERPILLAR 518 SKIDDER
 ++ FIRST USED ON S/N W3A-1801A11

HYDRAULIC

GEAR-HANDLING_____1C10-1C13
HYDRAULIC_____1C03-1C04
PUMP-HYDRAULIC_____1C09
UNION-ROTATING_____1C08
VALVE-CONTROL_____1C05-1C06
VALVE-PRESSURE_____1C07



HYDRAULIC

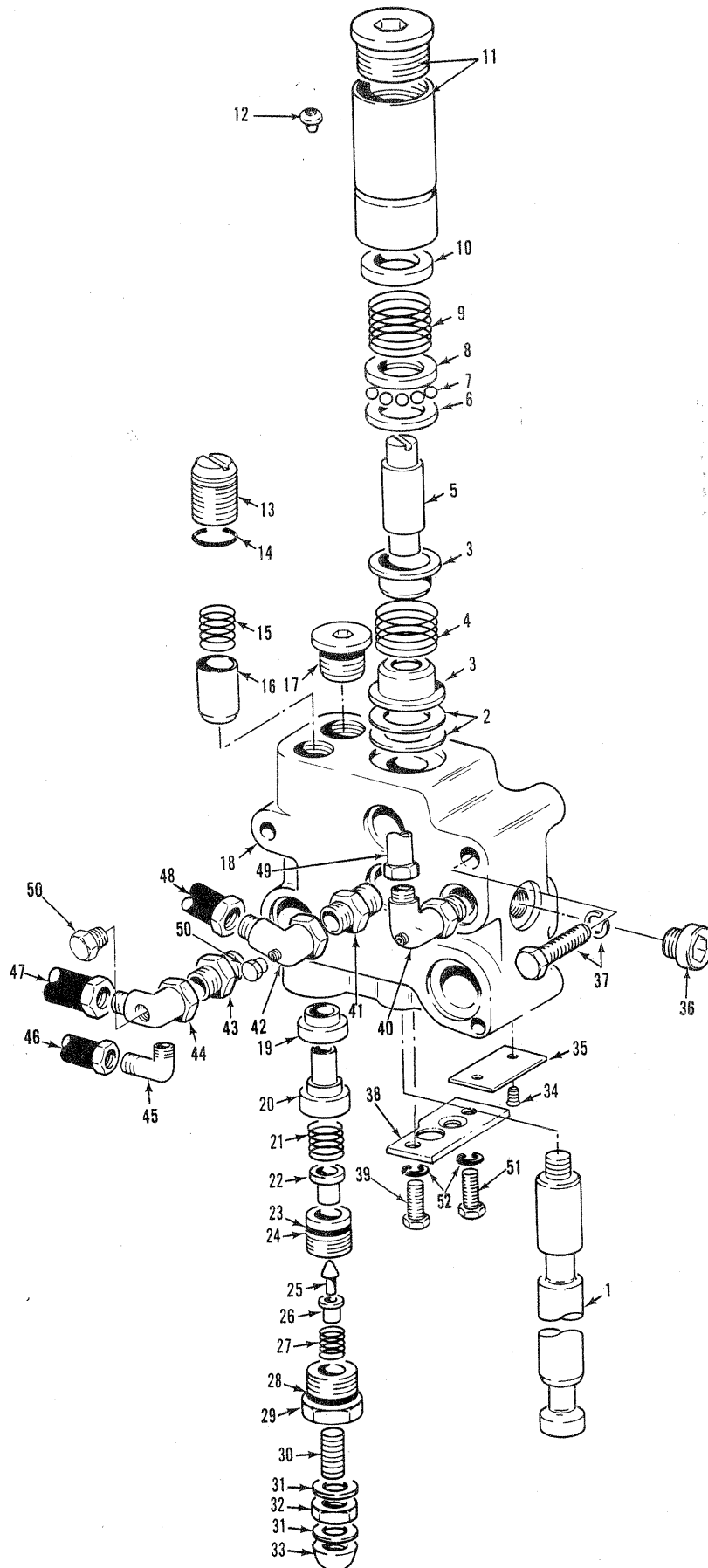


HYDRAULIC

REF	HYSTER	NAME OF PART	QTY	REF	HYSTER	NAME OF PART	QTY
NO	PART NO	1 2 3 4		NO	PART NO	1 2 3 4	
1	213611	CAPSCREW	1	19	327610	ACCUMULATOR	2
1	15158	LOCKWASHER	1	20	312984	MANIFOLD	1
2	.....	CABLE-BRAKE	1	21	16187	FITTING	1
		SEE 1C11-1C13		22	14581	FITTING	1
3	195893	HOSE	1	23	312996	TUBE	1
4	14500	FITTING	1	24	162155	FITTING	1
5	241778	SCREW	2	25	139721	HOSE	1
5	15156	LOCKWASHER	2	26	\$ 312997	TUBE	1
6	267018	VALVE	1	26	339518	TUBE	1
7	.....	VALVE-CONTROL	1	27	360387	LOCTITE	AR
		SEE 1C05-1C06		27	.....	UNION-ROTATING	1
8	327604	TUBE	1			SEE 1C08	
9	.....	VALVE-PRESSURE	1	28	125793	HOSE	1
		SEE 1C07		29	89664	HOSE	1
10	197421	HOSE	1	29	+ 297156	HOSE	1
11	317757	STRAINER	1	30	.....	PUMP-HYDRAULIC	1
12	16987	FITTING	1			SEE 1C09	
13	130845	CLAMP	2	31	327603	TUBE	1
13	+ 130845	CLAMP	3	32	16542	FITTING	1
14	307794	BRACKET	1	33	39766	O-RING	1
15	18593	CAPSCREW	1	34	312989	FITTING	1
15	15158	LOCKWASHER	1	35	15483	FITTING	2
16	312972	VALVE	1	36	+ 342438	TUBE	1
16	16485	O-RING	1	37	14668	FITTING	1
17	\$ 17224	FITTING	1				
17	16909	FITTING	1				
18	369521	HOSE	1				

+ FIRST USED ON S/N W3AP3A-1607C12
\$ LAST USED ON S/N W3A-1699A11

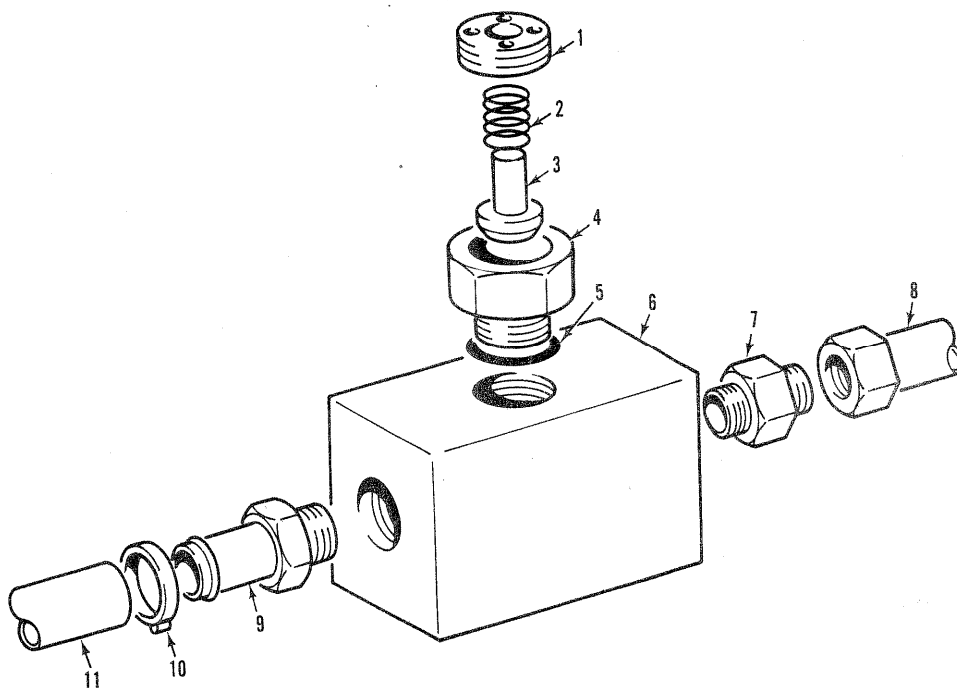
VALVE-CONTROL



VALVE-CONTROL

REF	HYSTER	NAME OF PART	QTY	REF	HYSTER	NAME OF PART	QTY
NO	PART NO	1 2 3 4		NO	PART NO	1 2 3 4	
	312971	VALVE	1	26	170996	SLEEVE	1
1	.....	SPOOL	1	27	197510	SPRING-PILOT	1
2	386464	RETAINER	2	28	16484	O-RING	1
3	233494	SPACER	2	29	170994	CAP	1
4	233497	SPRING	1	30	170997	SCREW-SET	1
5	329510	STUD	1	31	278833	SEAL	2
6	239573	WASHER-DETENT	1	32	233502	NUT	1
7	239574	BALL	8	33	233503	NUT	1
8	239575	CAM	1	34	166921	SCREW-DRIVE	2
9	329512	SPRING	1	35	299884	NAMEPLATE	1
10	329513	WASHER	1	36	222444	FITTING	1
11	329511	CAP	1	37	347023	CAPSCREW	3
12	288474	PLUG-BLEEDER	1	37	15156	LOCKWASHER	3
13	209029	VALVE-CHECK	1	38	339508	BRACKET-VALVE	1
13	233492	CAP	1	39	18535	CAPSCREW	1
14	118389	O-RING	1	40	16561	FITTING	1
15	233491	SPRING	1	41	16541	FITTING	1
16	236028	POPPET	1	42	322679	FITTING	1
17	235691	FITTING	3	43	16542	FITTING	1
18	.....	BODY	1	44	312995	FITTING	1
19	166917	VALVE-RELIEF	1	45	14500	FITTING	1
19	170988	SEAT	1	46	195893	HOSE	1
20	170989	POPPET	1	47	89664	HOSE	1
21	170993	SPRING	1	48	197421	HOSE	1
22	293311	SEAT-RELIEF	1	49	327604	TUBE	1
23	159859	O-RING	1	50	14349	FITTING	2
24	159858	RING-BACK-UP	1	51	16805	CAPSCREW	1
25	170995	PLUNGER-PILOT	1	52	15156	LOCKWASHER	2

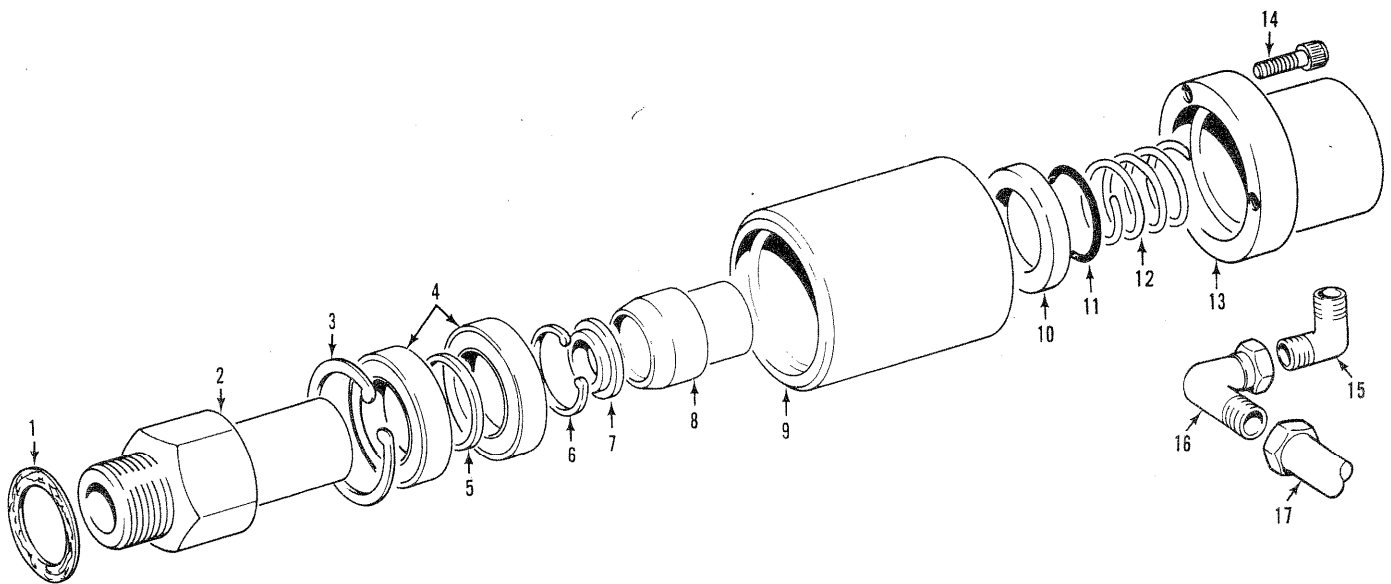
VALVE-PRESSURE



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
	226450	VALVE	1
1	226446	CAP	1
2	226447	SPRING	1
3	226448	POPPET	1
4	.....	BODY	1
5	16487	O-RING	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
6	312984	MANIFOLD	1
7	17346	FITTING	1
8	327604	TUBE	1
9	16156	FITTING	1
10	130845	CLAMP	1
11	125793	HOSE	1

UNION-ROTATING

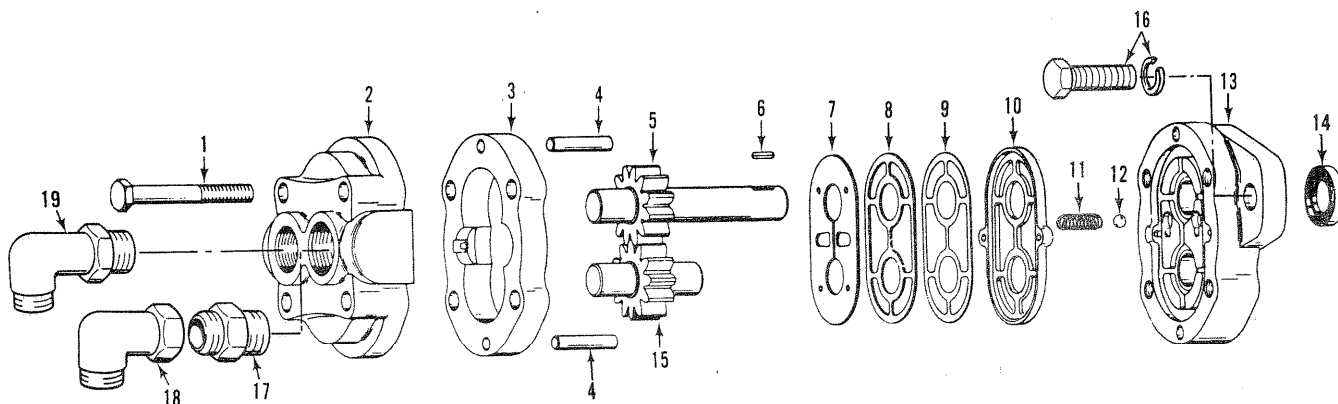


REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
	% 312991	UNION-ROTATING	1
1	+	GASKET	1
2	+	ROTOR	1
3	+	RING-SNAP	1
4	+	BEARING-BALL	2
5	+	SPACER	1
6	+	RING-SNAP	1
7	+	SEAL-STEEL	1
8	+	SEAL-FLOAT	1
9	+	HOUSING	1
10	+	RETAINER	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
11	+	O-RING	1
12	+	SPRING	1
13	+	CAP-END	1
14	+	SCREW	3
15	17309	FITTING	1
16	16989	FITTING	1
17	197421	HOSE	1

+ INCLUDED IN REPAIR KIT 329586
% USE LOCTITE COMPOUND 266414

PUMP-HYDRAULIC



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
	307797	PUMP	1
1	292317	CAPSCREW	1
2	332543	COVER-BACK	1
3	.....	BODY	1
4	170181	PIN	2
5	335881	GEAR-DRIVE	1
6	332545	KEY	1
7	+	DIAPHRAGM	1
8	+	GASKET-BACK-UP	1
9	+	PROTECTOR	1
10	+	SEAL-DIAPHRAGM	1
11	+	SPRING	2

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
12	+	BALL-STEEL	2
13	136035	PLATE-FRONT	1
14	+	SEAL-SHAFT	1
15	248649	GEAR-IDLER	1
16	246769	CAPSCREW	2
16	15905	LOCKWASHER	2
17	142682	FITTING	1
18	83857	FITTING	1
19	16559	FITTING	1

+ INCLUDED IN REPAIR KIT 332546

DETENT
BRAKE-ON
BRAKE-OFF
POWER
FREESPOOL
LINE-IN

FOR FINE INCHING CONTROL
FOR LOWERING LOADS: SET
ENGINE AT LOW IDLE.

HYSTER

REF NO	HYSTER PART NO	NAME OF PART	QTY
19	16597	CAPSCREW	4
20	16805	CAPSCREW	4
20	+ 18738	CAPSCREW	4
20	15156	LOCKWASHER	4
21	& 338832	DECAL-HANDLEVER	1
21	\$\$ 327605	DECAL-HANDLEVER	1
22	*@ 303941	CABLE	1
22	*# 303942	CABLE	1
23	67355	WIRE	AR
24	18425	LOCKWASHER	2

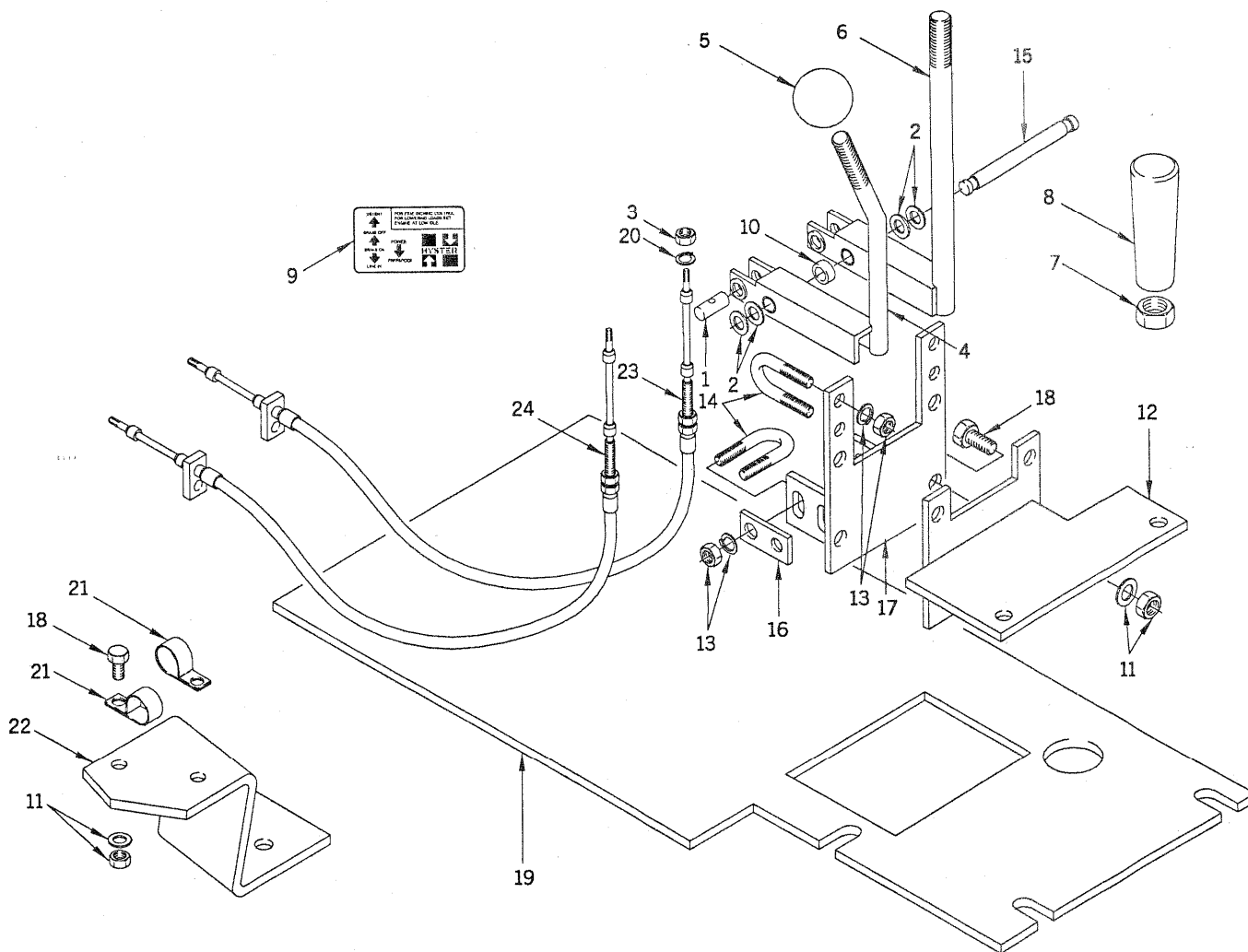
11/11 CATERPILLAR D3

GEAR-HANDLING

CATERPILLAR 518 SKIDDER

CATERPILLAR S/N 50S3202 AND 55U662 TO 94U AND 95U

LAST USED ON S/N W3A-1866



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	196128	PIN	2
2	15135	WASHER-FLAT	4
3	15106	LOCKNUT	2
4	276032	LEVER	1
5	243189	KNOB	1
6	276031	LEVER	1
7	15030	NUT-JAM	1
8	196469	KNOB	1
9	327605	DECAL-HANDLEVER	1
10	77418	BLOCK-ROUND	1
11	15056	NUT	6
11	15156	LOCKWASHER	6
12	354425	BRACKET	1
13	15155	LOCKWASHER	8
13	15055	NUT	8

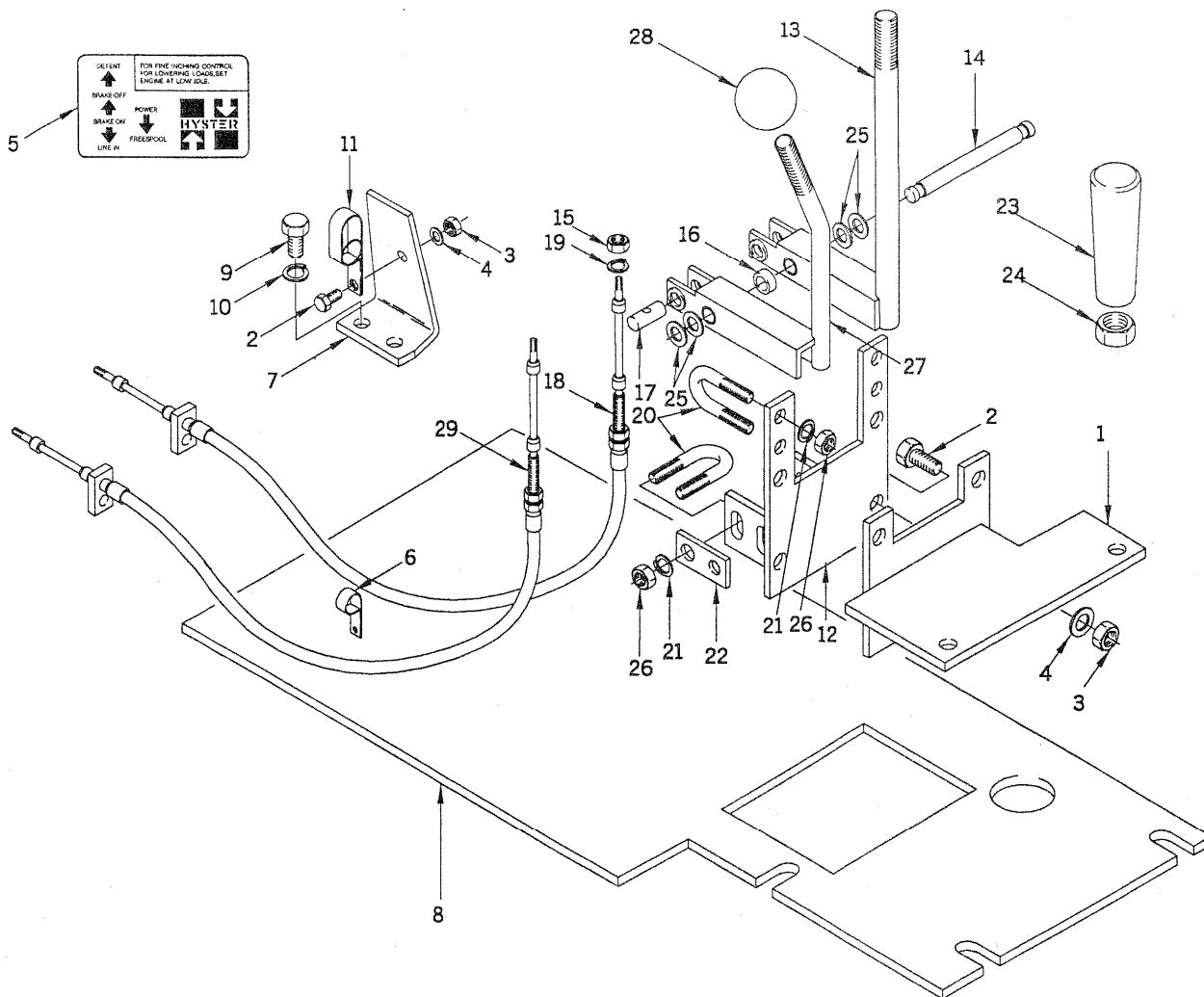
REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
14	196129	U-BOLT	4
15	276081	PIN	1
16	196130	SPACER	4
17	261567	BRACKET	1
18	16805	CAPSCREW	6
19	354433	COVER	1
20	18425	LOCKWASHER	2
21	175821	CLAMP	6
22	361763	BRACKET	1
23	% 354435	CABLE	1
24	* 303943	CABLE	1
	% BRAKE		
	* FREESPOOL		

GEAR-HANDLING

CATERPILLAR 518 SKIDDER

CATERPILLAR S/N 50S3202 AND 55U66S TO 94U AND 95U

FIRST USED ON S/N W3A-1867



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	354425	BRACKET	1
2	16805	CAPSCREW	5
3	15056	NUT	5
4	15156	LOCKWASHER	5
5	327605	DECAL-HANDLEVER	1
6	175821	CLAMP	1
7	374818	BRACKET	1
8	354433	COVER	1
9	16829	CAPSCREW	2
10	15158	LOCKWASHER	2
11	203230	CLAMP	1
12	261567	BRACKET	1
13	276031	LEVER	1
14	276081	PIN	1
15	15016	NUT	2
16	77418	BLOCK-ROUND	1

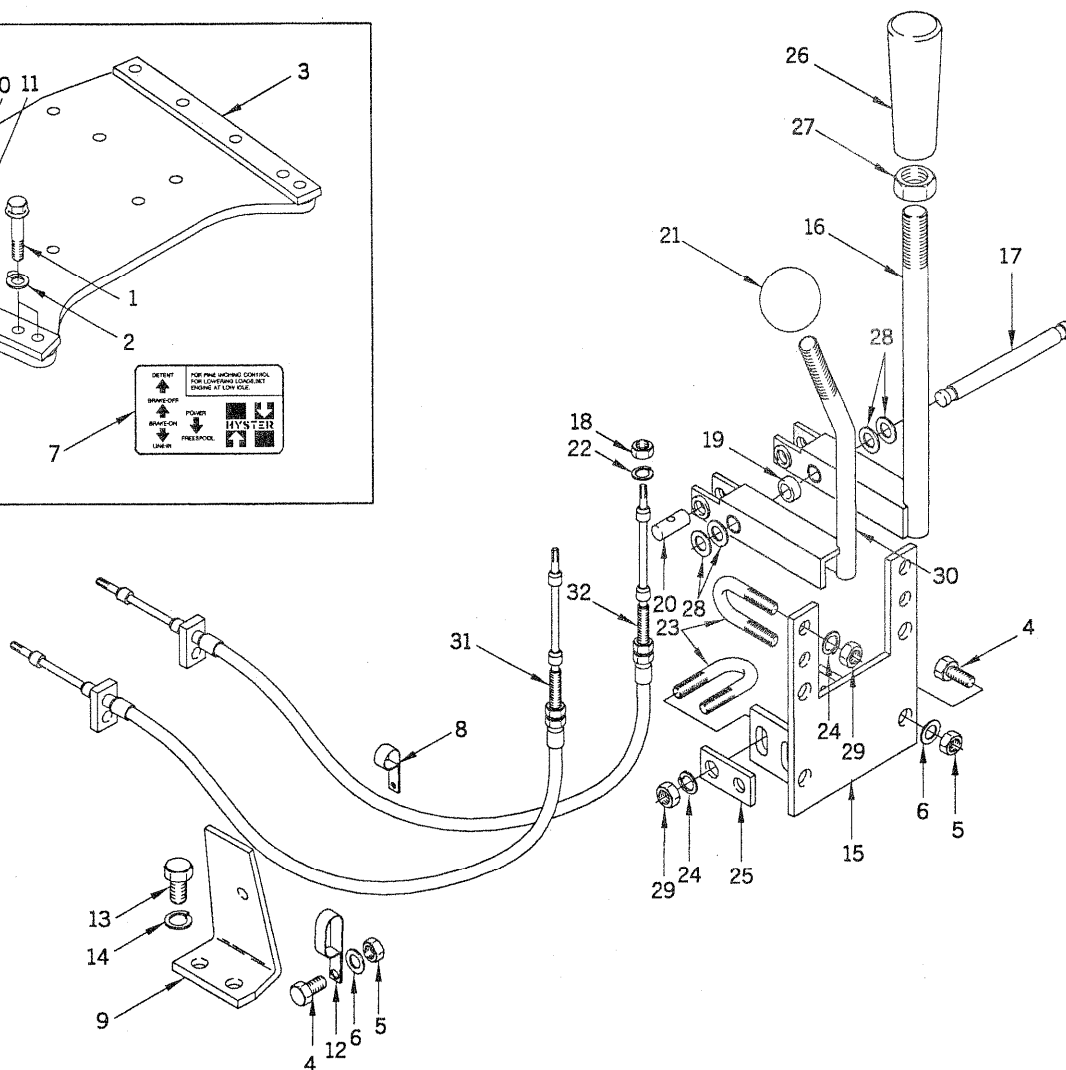
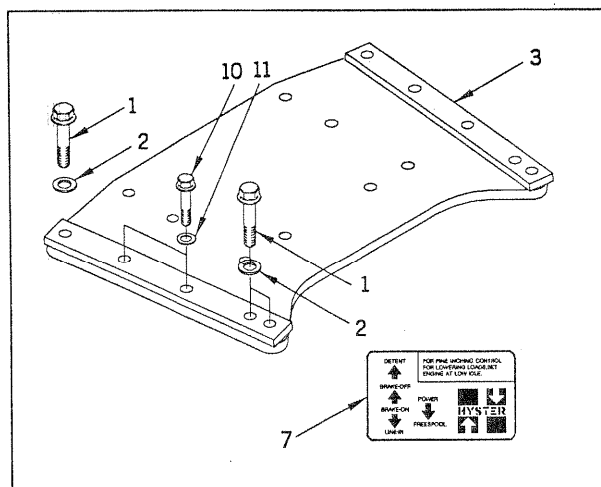
REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
17	196128	PIN	2
18	% 354435	CABLE	1
19	18425	LOCKWASHER	2
20	196129	U-BOLT	4
21	15155	LOCKWASHER	8
22	196130	SPACER	4
23	196469	KNOB	1
24	15030	NUT-JAM	1
25	15135	WASHER-FLAT	4
26	15055	NUT	8
27	276032	LEVER	1
28	243189	KNOB	1
29	* 303943	CABLE	1
		* FREESPOOL	
		% BRAKE	

GEAR-HANDLING

CATERPILLAR 518 SKIDDER

CATERPILLAR S/N 94U AND 95U AND UP

FIRST USED ON S/N W3A-1867



REF NO	HYSTER PART NO	NAME OF PART	QTY
1	177192	CAPSCREW	6
2	221777	WASHER-FLAT	6
3	373012	PLATE	1
4	16805	CAPSCREW	5
5	15056	NUT	5
6	15156	LOCKWASHER	5
7	327605	DECAL-HANDLEVER	1
8	175821	CLAMP	3
9	374818	BRACKET	1
10	221634	CAPSCREW	4
11	221775	WASHER	4
12	203230	CLAMP	1
13	16829	CAPSCREW	2
14	15158	LOCKWASHER	2
15	261567	BRACKET	1
16	276031	LEVER	1
17	276081	PIN	1
18	15106	LOCKNUT	2

REF NO	HYSTER PART NO	NAME OF PART	QTY
19	77418	BLOCK-ROUND	1
20	196128	PIN	2
21	243189	KNOB	1
22	18425	LOCKWASHER	2
23	196129	U-BOLT	4
24	15155	LOCKWASHER	8
25	196130	SPACER	4
26	196469	KNOB	1
27	15030	NUT-JAM	1
28	15135	WASHER-FLAT	4
29	15055	NUT	8
30	276032	LEVER	1
31	* 303943	CABLE	1
32	% 354435	CABLE	1
		* FREESPOOL	
		% BRAKE	

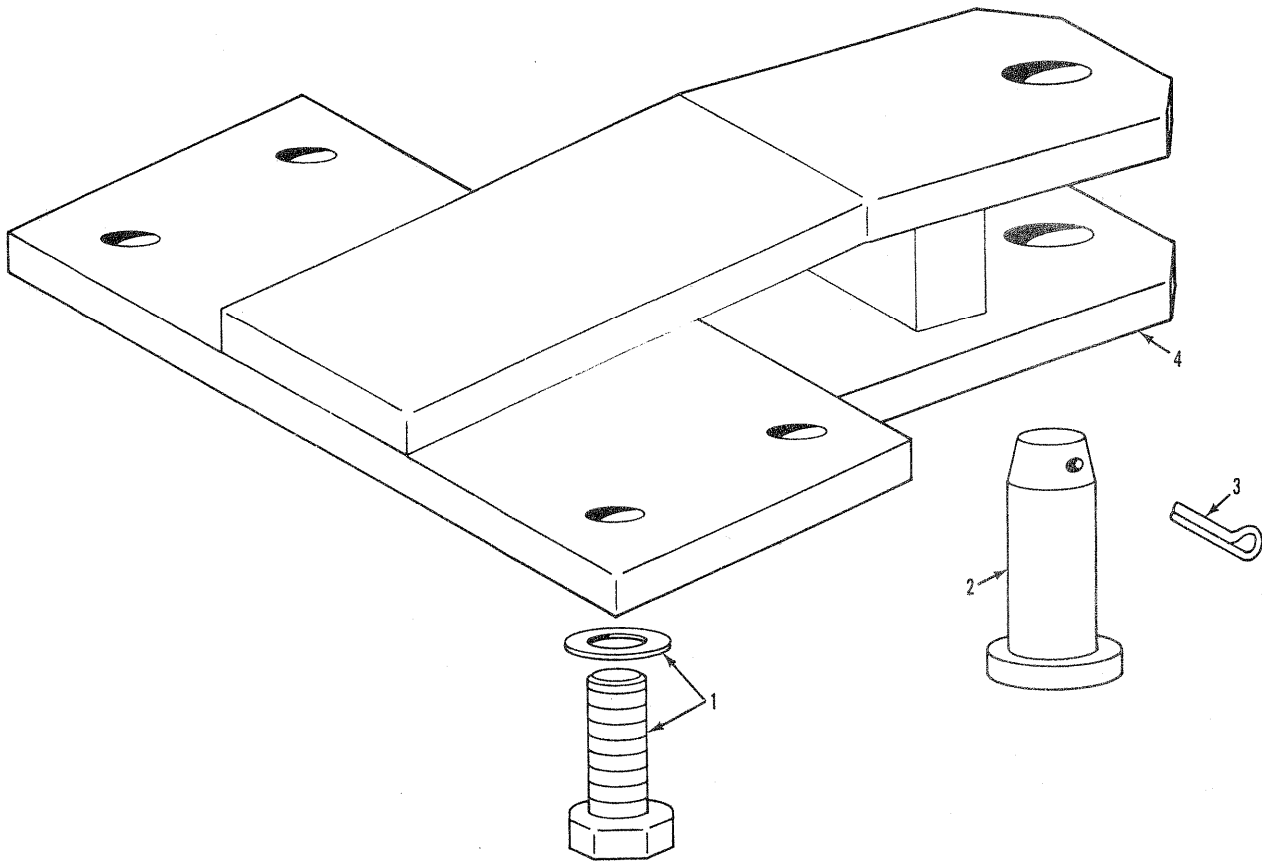
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ARCH_____1006

DRAWBAR_____1003

FAIRLEAD_____1004-1005

DRAWBAR

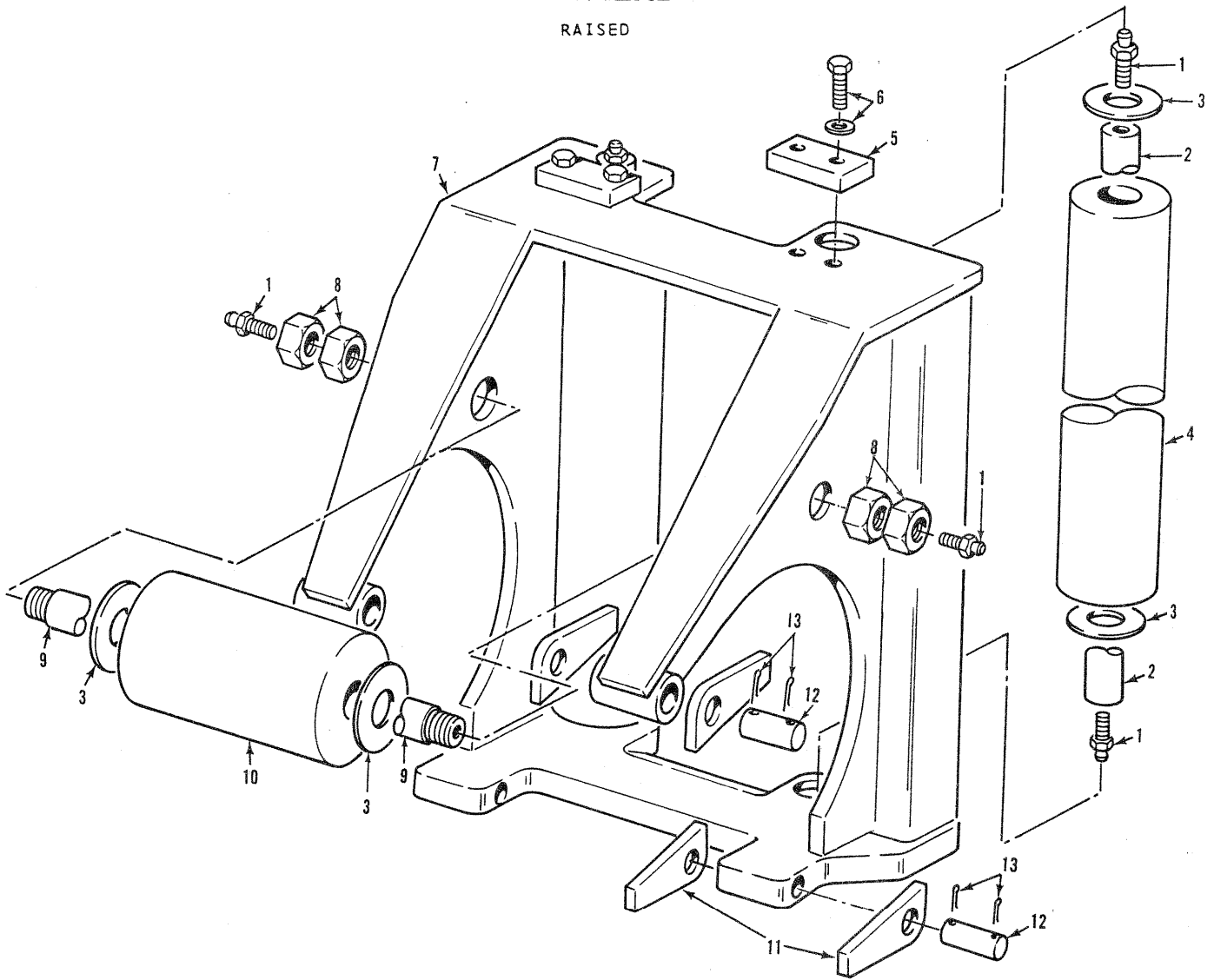


REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	18620	CAPSCREW	4
1	15162	LOCKWASHER	4
2	94448	PIN	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
3	15264	PIN-COTTER	1
4	344828	DRAWBAR	1

FAIRLEAD

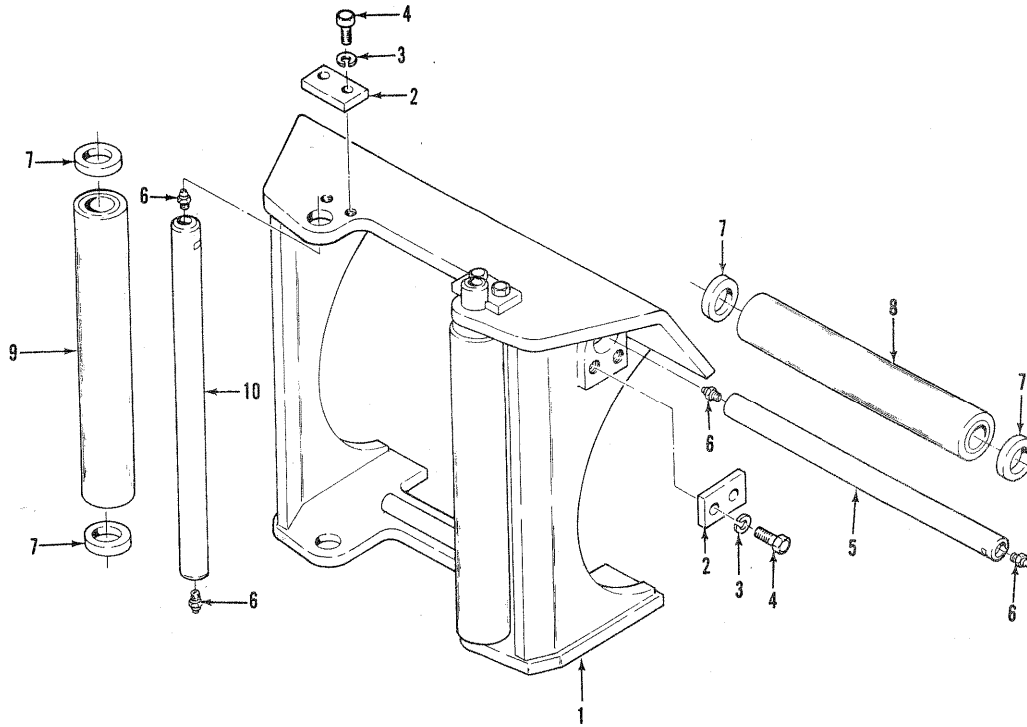
RAISED



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	16001	FITTING-GREASE	6
2	307679	SHAFT	2
3	35843	WASHER	6
4	307674	ROLLER	2
5	93166	KEEPER	2
6	18588	CAPSCREW	4
6	15158	LOCKWASHER	4

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
7	.....	FRAME	1
8	32796	NUT-JAM	4
9	307689	SHAFT	1
10	307688	ROLLER	1
11	307690	EAR-MOUNTING	8
12	.....	PIN	4
13	15246	PIN-COTTER	8

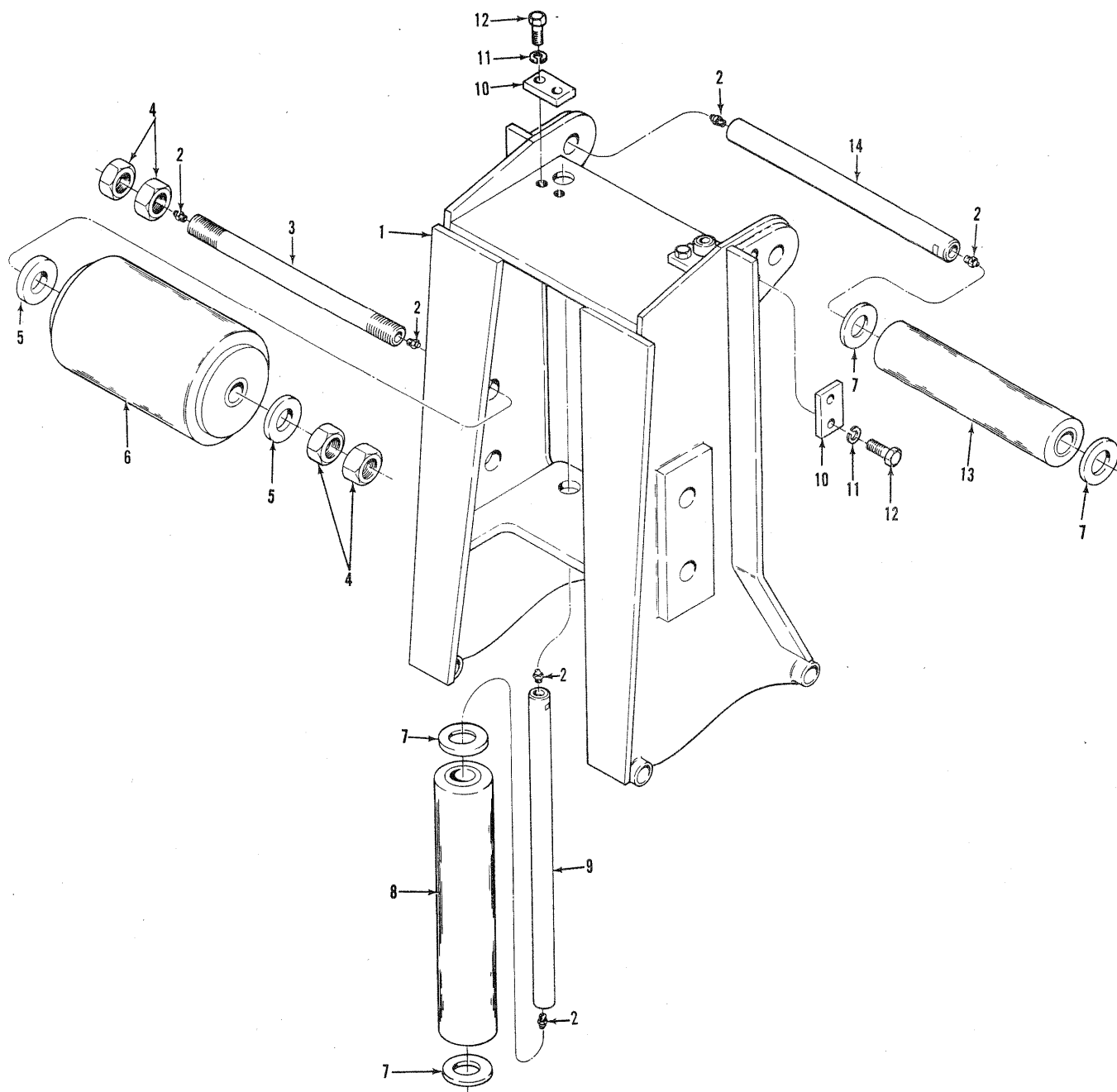
FAIRLEAD



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	342440	FRAME	1
2	93166	KEEPER	3
3	15158	LOCKWASHER	6
4	16830	CAPSCREW	6
5	344835	SHAFT	1

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
6	16001	FITTING-GREASE	6
7	344825	WASHER	6
8	344826	ROLLER	1
9	342448	ROLLER	2
10	342447	SHAFT	2

ARCH



REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
1	321418	FRAME	1
2	16001	FITTING-GREASE	8
3	307689	SHAFT	1
4	32796	NUT-JAM	4
5	35843	WASHER	2
6	307688	ROLLER	1
7	344825	WASHER	6

REF NO	HYSTER PART NO	NAME OF PART 1 2 3 4	QTY
8	342448	ROLLER	2
9	342447	SHAFT	2
10	93166	KEEPER	3
11	15158	LOCKWASHER	6
12	16830	CAPSCREW	6
13	344826	ROLLER	1
14	344835	SHAFT	1

INDEX-NUMERICAL

139 - 222444_____G03
222714 - 354431_____G04
354432 - 388596_____G05



INDEX — NUMERICAL

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
139	1B10	15	15156	1C06	52	16559	1C09	19	46578	1B10	21	178402	1B10	19
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9554	1B03	15		1C10	20	16597	1C10	19		1A07	3		1A05	16
10387	1B03	9		1C11	11	16805	1B06	25	55468	1B04	23		1A05	42
	1B04	8		1C12	4		1C06	51	58903	1B10	14		1B09	1
	1B05	8		1C13	6		1C10	20	58921	1B06	3	179443	1A05	13
10388	1B03	8	15158	1A05	4		1C11	18	58924	1B05	23		1B10	11
	1B04	7		1A05	10		1C12	2		1B06	9	182209	1B03	18
	1B05	7		1A05	16		1C13	4	58931	1B06	2	190930	1C10	1
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14516	1A10	8		1B09	1	16836	1C10	9	77418	1C11	10		1C13	20
14581	1C04	22		1B10	19	16909	1C04	17		1C12	16	196129	1C10	13
14589	1A10	15		1C04	1	16987	1C04	12		1C13	19		1C11	14
14592	1A10	14		1C04	15	16989	1C08	16	77692	1B04	24		1C12	20
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14713	1A10	3		1C13	14	17309	1C08	15	83857	1C09	18	196130	1C10	14
15011	1A05	27		1D04	6	17346	1C07	7	87242	1A06	7		1C11	16
15016	1C12	15		1D05	3	18003	1A07	9	87287	1B07	9		1C12	22
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	1C06	37		1C06	43		1B04	11	177946	1B07	11	222444	1C06	36

INDEX — NUMERICAL

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
222714	1B04	13	276032	1C12	27	307639	1B06	16	307797	1C09		333988	1C10	16
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	1A09		282704	1B07	5	307690	1D04	11	317757	1C04	11	342430	1B10	5
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INDEX — NUMERICAL

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
354432	1A10	11	379492	1B05	5									
354433	1C11	19	379494	1B04	4									
	1C12	8		1B05	4									
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	1C12	18	381197	1B08	6									
	1C13	32	383890	1B08	3									
354436	1A05	40	383908	1B09	16									
354437	1A05	41	386464	1C06	2									
354440	1A06	3	388587	1B09	8									
	1A07	3	388596	1B06	14									
	1A08	4												
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354444	1B10	7												
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358982	1B06	18												
358983	1B06	20												
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360389	1A09	3												
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360995	1A11	7												
361763	1C11	22												
369503	1B07	3												
369504	1B07	12												
369521	1C04	18												
373012	1C13	3												
373636	1B06	18												
373637	1B06	20												
374818	1C12	7												
	1C13	9												
379454	1B08	9												
379455	1B08	6												
379489	1B05	22												
379492	1B04	5												