

REVISION RECORD LOG

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MODEL 644 AND 644BH S/N 9698284 & AFTER
 MODEL 646 AND 646BH S/N 9698983 & AFTER
 COMPACT WHEEL TRACTORS

Parts Catalog No. B1302

Part Publ 2500

Published December 1978

NOTE: This parts catalog replaces the previous issue, A1302, which is obsolete and should be discarded.

This catalog lists mounting parts for Series "B" backhoe.

For backhoe components see Parts Catalog 1275 covering the D-100 Backhoe.

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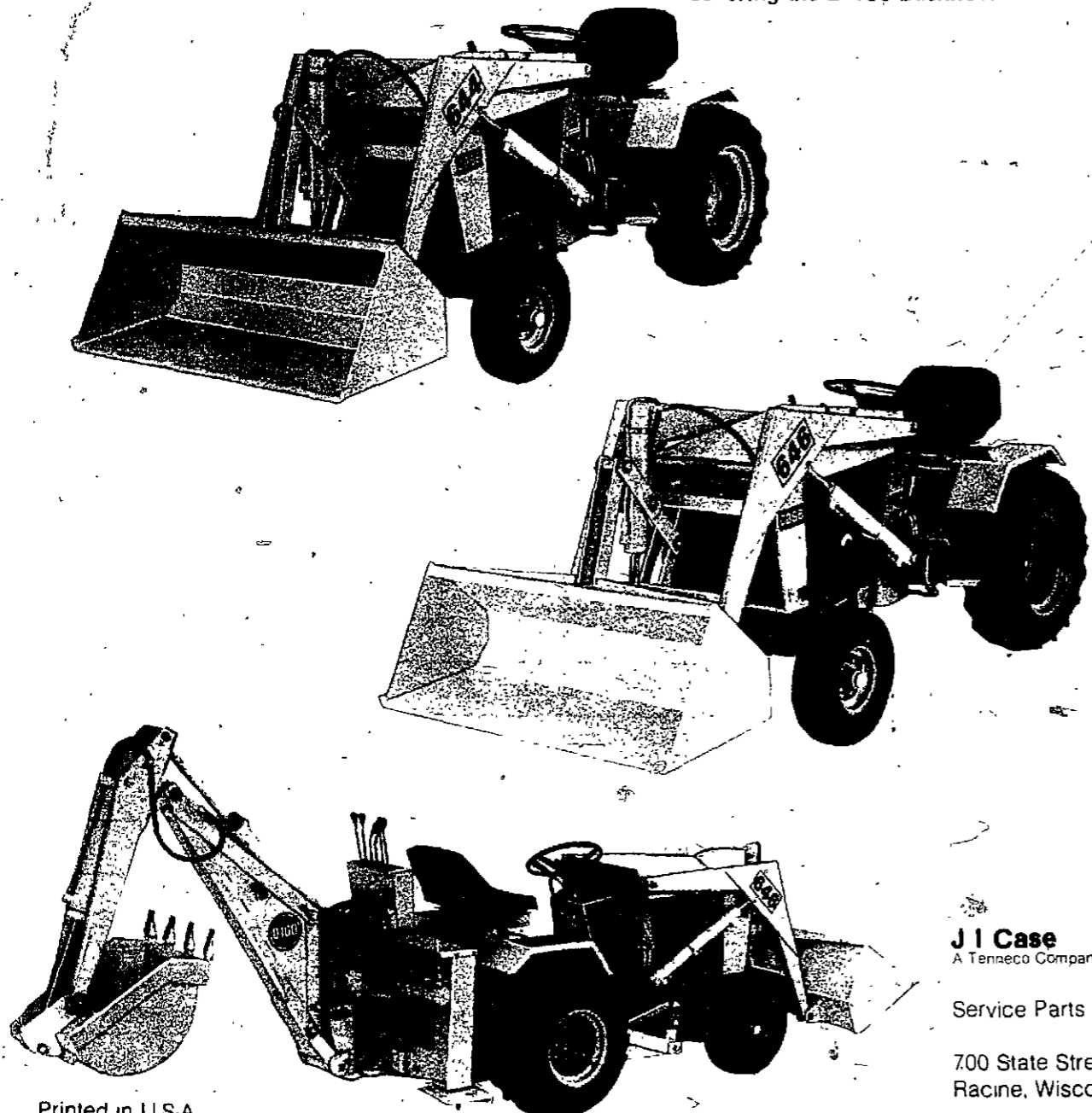
ONAN ENGINE SECTION

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Exhaust System	25	B12	Points - Breaker Contact	21	B8
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Fork Lift - LT-20 and LK-20	109	B10*	PTO Clutch	43-45B	D2-D6
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* contained on microfiche 37



J I Case
 A Tenneco Company

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GENERAL INFORMATION

Indexes

This parts Catalog is arranged for easy identification of Genuine CASE Service Parts. An alphabetical index is provided at the front of this Catalog to locate the major groups or assemblies. A numerical index at the rear of the Catalog gives the part numbers and the pages on which they are described.

Illustrations

All parts are illustrated in "Exploded Views" which show the individual parts in their normal relationship to each other. Reference numbers are used in the illustrations. These numbers correspond to those in the "Reference Number" column and are followed by the part number, description and quantity required.

Orders

Orders should plainly specify correct part number, full description, quantity required, machine model and engine model, machine and engine serial numbers, method of shipment and shipping address.

Changes

When changes to the machine make it necessary, revised pages for this book will be issued. The revised pages will be issued with the same page number as those they replace and the "issue" number and date will be advanced.

It is imperative that revised Parts Book pages be inserted into their respective Parts Books as soon as received. Failure to do so will lead to confusion and defeat the purpose of the book.

Indented Description

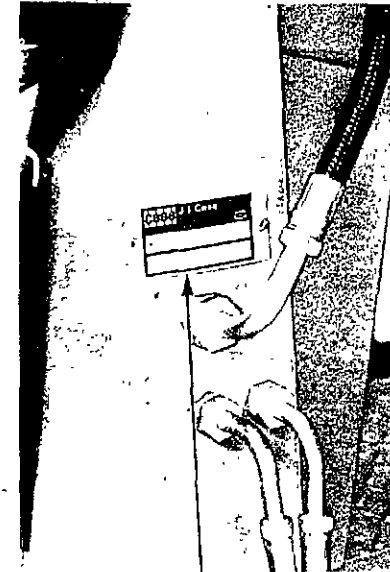
Indented parts in the descriptive list are a part of the preceding assembly or sub-assembly. The quantity shown in the "Number Required" column is the number of parts used on a machine except where parts are indented in descriptive list. In this case the quantity shown is the number required for the preceding assembly or sub-assembly.

REF.	PART NO.	DESCRIPTION	REQ'D
	A 55159	CYLINDER ASSY - rear steering	1
28	A 56208	SOCKET ASSY - rear cylinder	1
29	A 55956	PLUG - adjusting, socket assy	1
30	A 55957	SEAT - socket ball	2
31	A 56210	SPRING - socket	1
32	A 56209	SEAT - socket spring	1
33	G 45175	CLAMP ASSY - socket assy	1
	16- 836	BOLT - 1/2" x 2-1/4" N.F. hex.	1
34	132- 104	PIN - cotter, 3/16" x 3"	1
35	A 55889	STUD - ball, socket & cylinder	2
36	13- 410	BOLT - 1/4" x 5/8" N.C., hex.	4
37	92- 4	LOCKWASHER - 1/4" SAE	4

Terms "Right Hand" and "Left Hand"

"Right-Hand" and "Left Hand" sides of this machine are determined by standing at the rear of the unit and facing in the direction of forward travel.

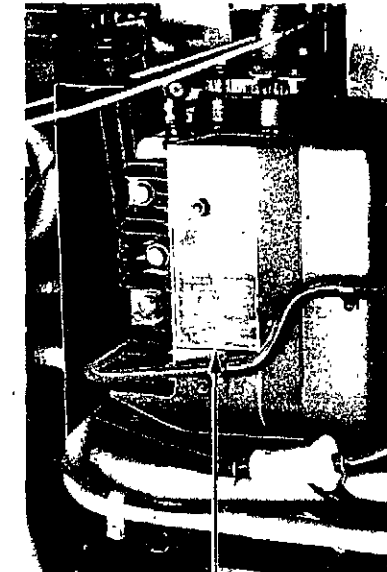
CASE MODEL 644, 646, 644BH AND 646BH COMPACT WHEEL LOADERS



TRACTOR MODEL AND SERIAL NUMBER



ENGINE MODEL, SERIAL AND SPECIFICATION NUMBER 644 AND 644BH



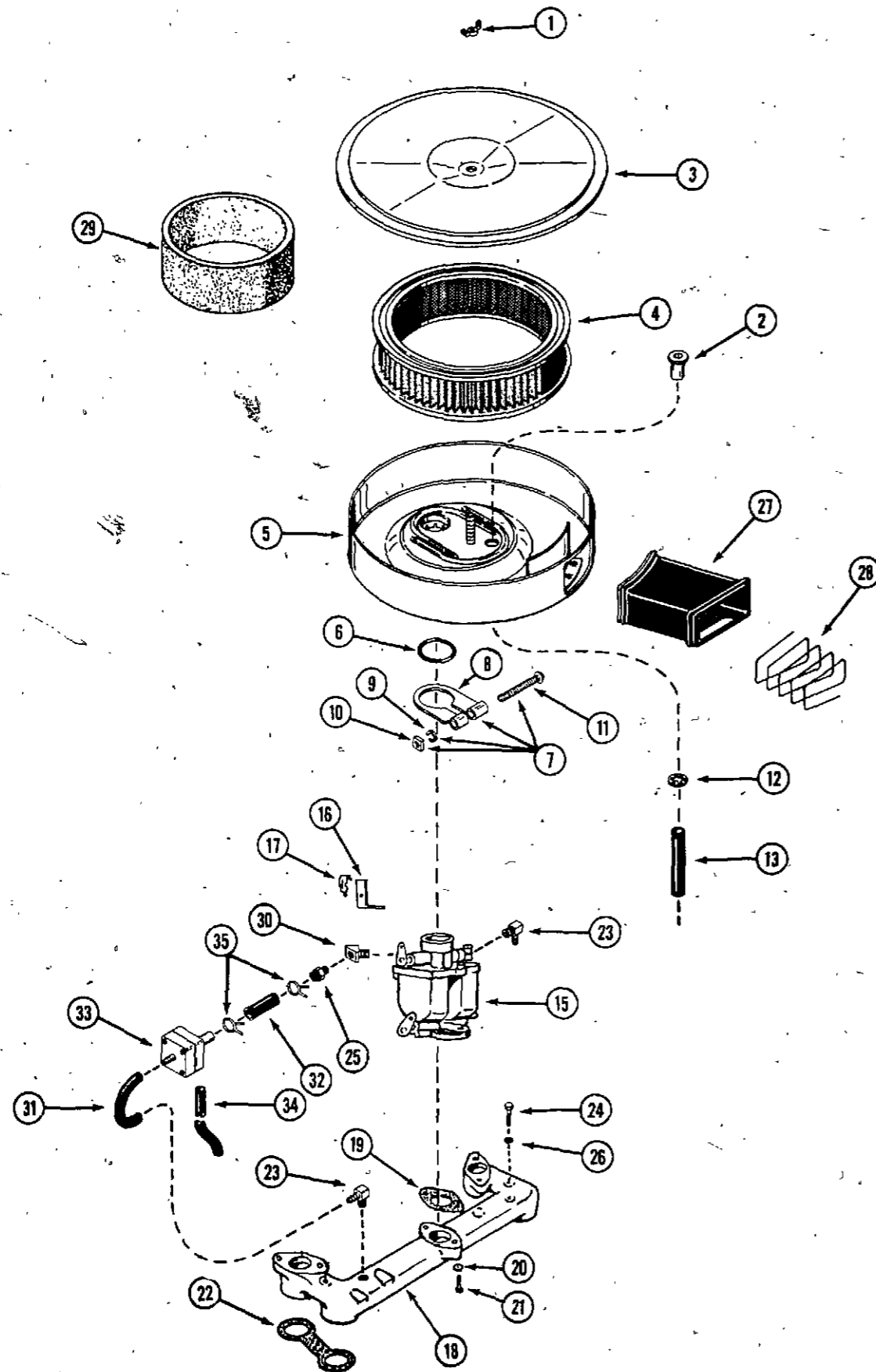
ENGINE MODEL, SERIAL AND SPECIFICATION NUMBER 646 AND 646BH

TRACTOR MODEL DESIGNATIONS	ENGINE MODEL DESIGNATIONS
644 AND 644BH WHEEL LOADER	K-321-A C 20183 ENGINE Spec. No. 60258D (used prior to S/N 9731697)
	K-321-A C 22770 Spec. No. 60294D (used S/N 9731697 to S/N 9744750)
	K-321-AS C 24786 ENGINE Spec. No. PF 60324D (used S/N 9744750 and after)
646 AND 646BH WHEEL LOADER	CCKA-MS C 21669 ENGINE Spec. 2803J and 3566J

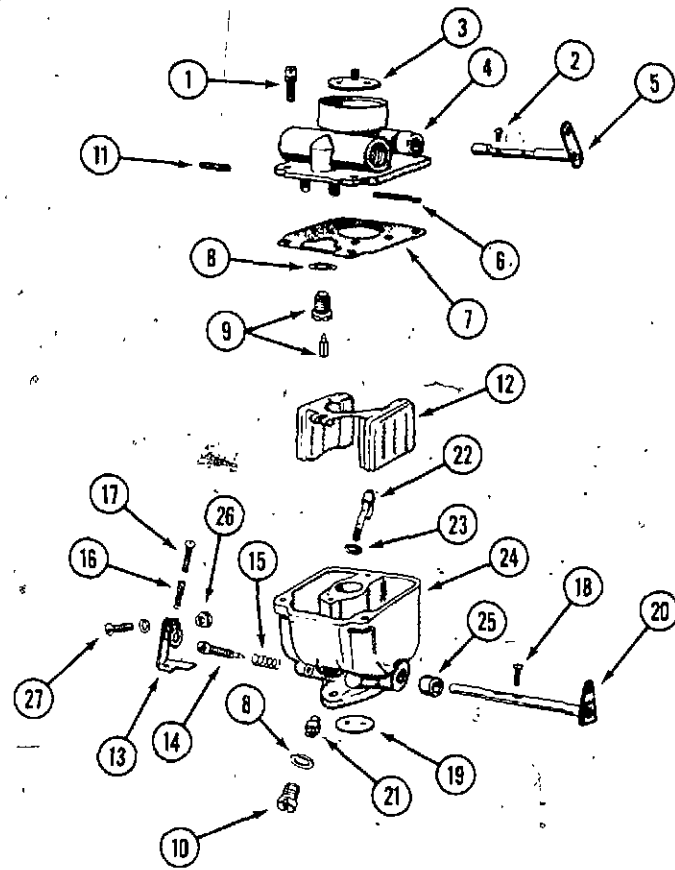
SERIAL NUMBERS

When using this catalog, notice the reference to serial numbers of various components noted here and listed in the "description" copy. By referring to correct serial numbers, proper parts identification will be assured.

CARBURETOR, AIR FILTER AND MANIFOLD - 646 and 646BH

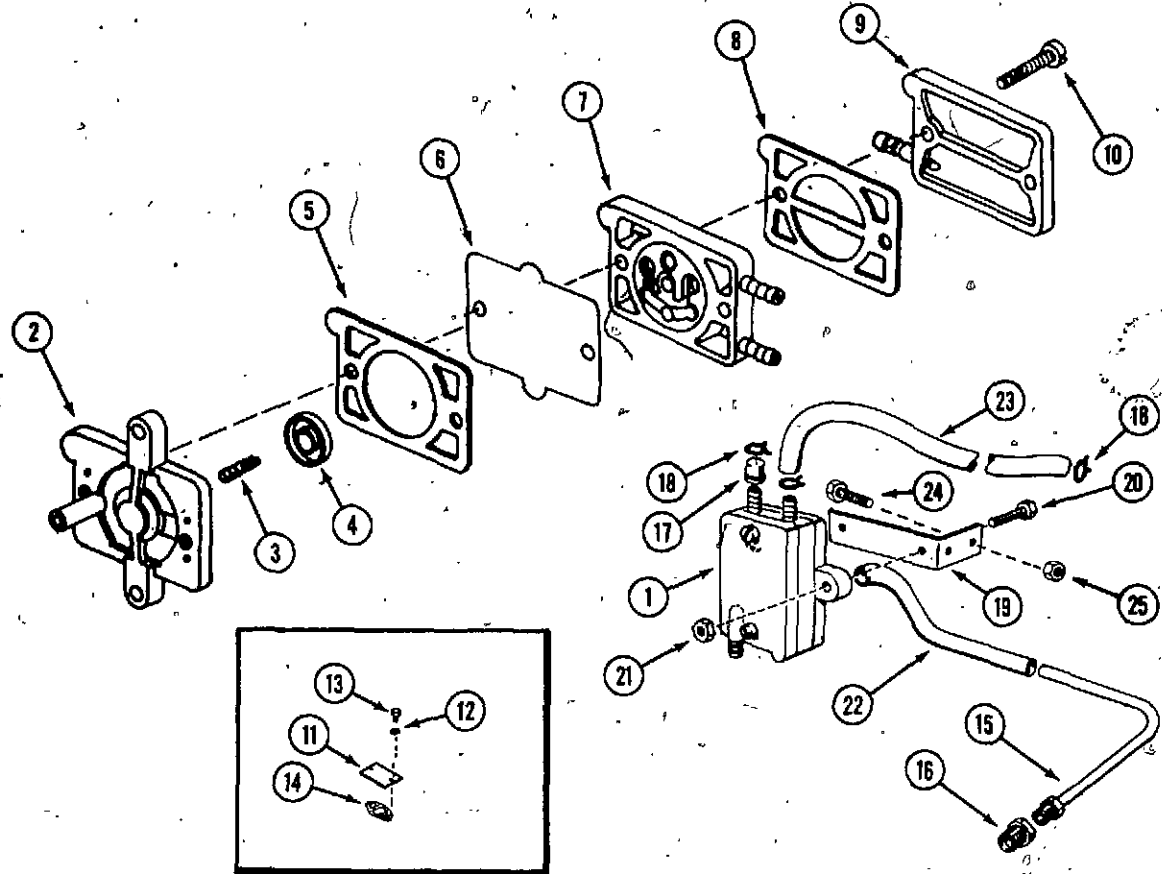


REF.	PART NO.	DESCRIPTION	REQ'D
	C 22551	AIR CLEANER ASSEMBLY	1
1	129- 505	NUT - wing 1/4"	1
2	C 22426	TUBE - breather	1
3	C 22425	COVER - air cleaner	1
4	C 22424	ELEMENT - air cleaner	1
5	C 22423	BASE - air cleaner	1
6	A 28077	"O" RING - 1-7/16" I.D.	1
7	C 19170	CLAMP ASSEMBLY - air cleaner	1
8	NSS	CLAMP - air cleaner	1
9	92- 3	LOCKWASHER - #10.	1
10	129- 77	NUT - #10 NF square	1
11	174- 222	SCREW - #10 x 2-1/4" NF rd. hd. machine	1
12	C 22428	LOCKWASHER - star	1
13	C 22427	HOSE - breather	1
15	C 22418	CARBURETOR - engine (repairs, page 7)	1
16	C 20630	BRACKET - choke	1
17	C 20374	CLIP - throttle cable	1
18	C 22420	MANIFOLD - engine, intake.	1
19	C 20564	GASKET - carburetor mtg.	1
20	92- 4	LOCKWASHER - carburetor mtg.	2
21	113- 5	BOLT - carburetor mtg.	2
22	C 20632	GASKET - manifold, intake	1
23	C 10678	ELBOW	2
24	13- 632	BOLT - manifold mtg.	2
25	C 22430	NIPPLE - pipe	1
26	92- 6	LOCKWASHER - manifold mtg.	2
27	C 21498	HOSE - air intake	1
28	C 21976	SLEEVE - air intake	1
29	C 22581	PRE-CLEANER - air cleaner (optional).	1
30	217- 15	ELBOW - carburetor outlet	1
31	C 22432	HOSE - vacuum	1
32	C 22431	HOSE - vacuum	1
33	C 22421	VENT ASSEMBLY - carburetor	1
	C 25260	DIAPHRAGM - vent	1
34	C 22471	HOSE - drain	1
35	C 22422	CLAMP - hose	2



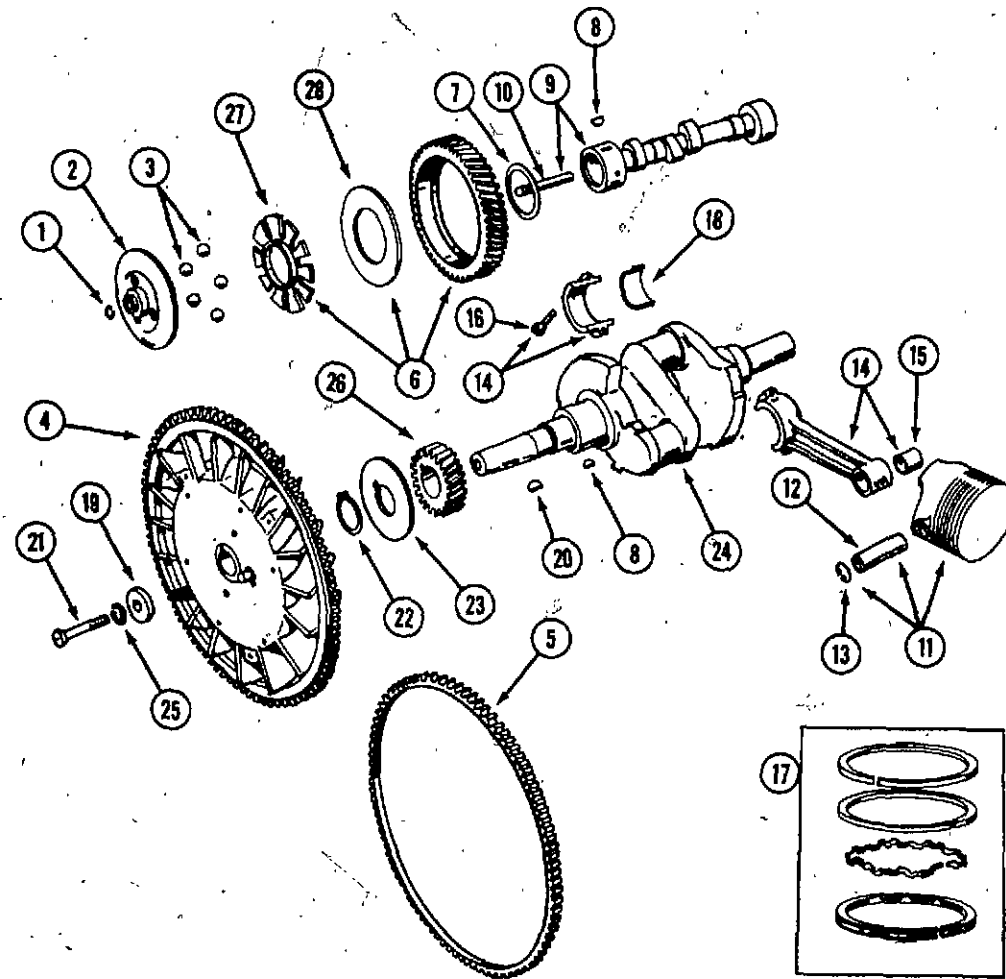
C22418 CARBURETOR - 646 and 646BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	169- 97	SCREW - bowl cover	3
2	NSS	SCREW - choke fly #4 x 3/16" (See Kits below)	2
3	C 20691	FLY - choke	1
4	NSS	COVER ASSEMBLY - carburetor (order C22418 carburetor)	1
5	C 20693	SHAFT ASSEMBLY - choke	1
6	C 20694	PIN - float	1
7	NSS	GASKET - body to bowl (See Kits below)	1
8	NSS	GASKET - float, valve seat (See Kits below)	1
8	NSS	GASKET - nozzle plug	1
9	NSS	NEEDLE AND SEAT ASSEMBLY (See Kits below)	1
10	C 22467	PLUG - nozzle	1
11	C 20712	PIN - choke stop	1
12	C 20700	FLOAT ASSEMBLY - carburetor	1
13	NSS	LEVER - idler stop (not needed, use governor idle adjust)	1
14	NSS	NEEDLE - idler adjust (See Kits below)	1
15	C 20439	SPRING - idler adjust	1
16	NSS	SPRING - throttle stop adjust (not needed, use governor idle adjust)	1
17	NSS	SCREW - throttle stop (not needed, use governor idle adjust)	1
18	NSS	SCREW - throttle fly #4 x 1/4" (See Kits below)	2
19	C 20705	FLY - throttle	1
20	NSS	SHAFT ASSEMBLY - throttle (See Kits below)	1
21	C 22466	NUT - nozzle	1
22	NSS	NOZZLE ASSEMBLY - (See Kits below)	1
23	NSS	GASKET - nozzle (See Kits below)	1
24	NSS	BODY ASSEMBLY - carburetor (order C22418 carburetor)	1
25	C 20709	BUSHING - throttle shaft	2
26	NSS	NUT - throttle stop (not needed, use governor idle adjust)	1
27	NSS	SCREW - throttle stop (not needed, use governor idle adjust)	1
	C 22462	KIT - repair, carburetor (includes items 2, 7, 8, 9, 14, 18, 20, 22, 23)	1
	C 20690	KIT - gasket, carburetor (includes items 7, 8, 23)	1



FUEL PUMP ASSEMBLY - 646 and 646BH

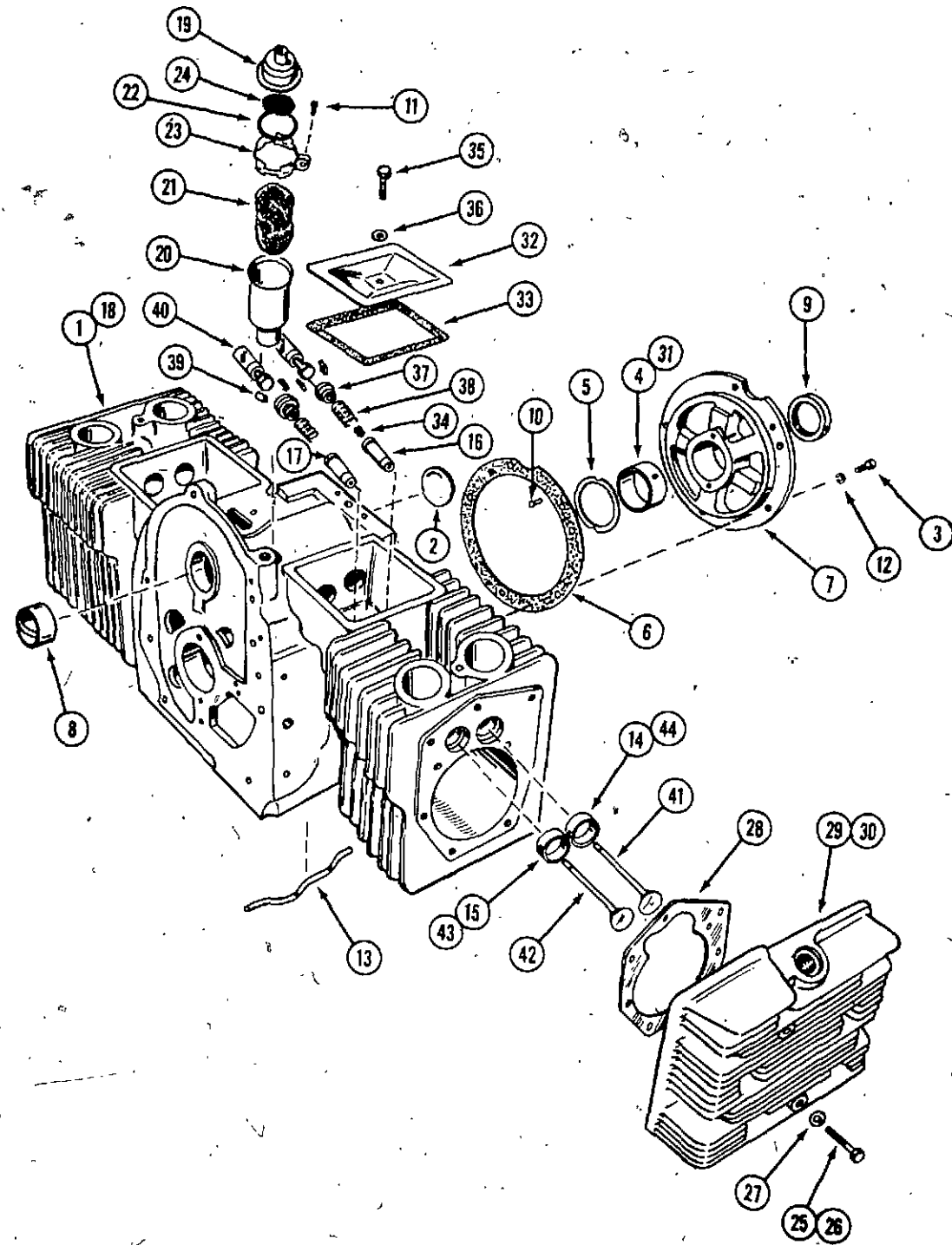
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 20653	PUMP - fuel, vacuum	1
2	C 20740	BASE - fuel pump	1
3	C 20440	SPRING - diaphragm	1
4	C 20448	PLATE - spring	1
5	C 20434	GASKET - base fuel pump	1
6	C 20437	DIAPHRAGM - fuel pump	1
7	C 20428	VALVE PLATE ASSEMBLY	1
8	C 20738	GASKET - cover, fuel pump	1
9	C 20739	COVER - fuel pump	1
10	C 20433	SCREW - cover, fuel pump	2
11	C 20645	PLATE - mechanical fuel pump hole cover	1
12	C 20247	LOCKWASHER - 1/4"	2
13	13- 410	BOLT - 1/4" x 5/8" n.c. hex.	2
14	C 20735	GASKET - plate, fuel pump hole cover	1
15	C 20647	TUBE - vacuum line	1
16	222- 1014	FITTING - inverted male	1
17	C 20411	CAP - fuel pump	1
18	214- 102	CLAMP - hose	3
19	C 20650	BRACKET - fuel pump mtg.	1
20	C 20651	SCREW - #10 x 5/8"	2
21	193- 1000	NUT - #10 n.f. hex.	2
22	C 22429	HOSE - vacuum, fuel pump	1
23	C 22417	HOSE - fuel pump to carburetor	1
24	C 22275	SCREW - #6 x 3/8"	2
25	C 22279	NUT - #6 - 32 hex.	2



PISTON, CRANKSHAFT, FLYWHEEL AND CAMSHAFT — 646 and 646BH

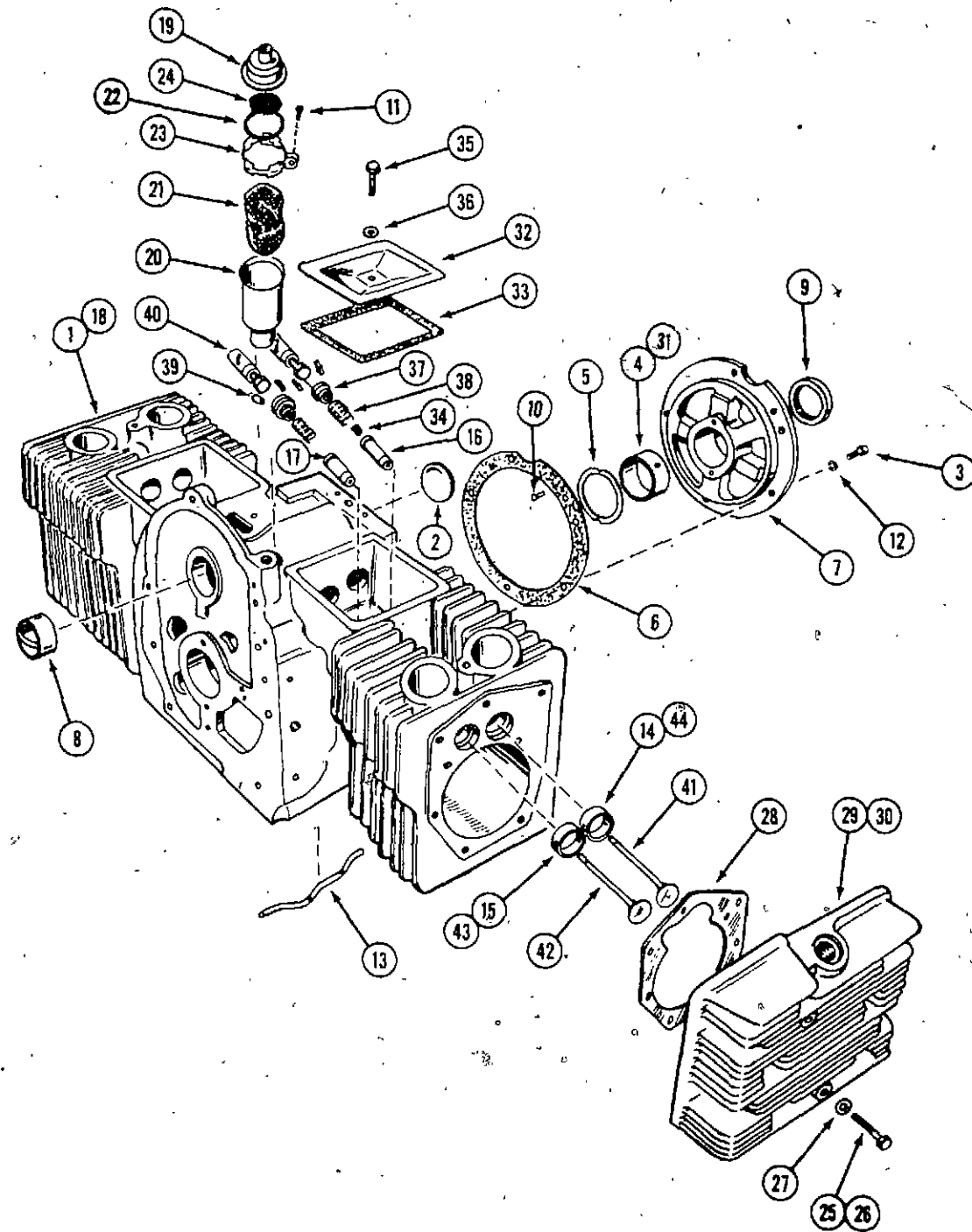
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 20223	RING - center pin, camshaft	1
2	C 22260	CUP - governor	1
3	211- 14	BALL - fly, governor	5
4	C 20317	FLYWHEEL - engine (includes ring gear)	1
5	C 20308	GEAR - ring, flywheel	1
6	C 22261	GEAR - timing, camshaft (includes items 27 and 28)	1
7	C 20229	WASHER - thrust, cam gear	1
8	126- 9	KEY - woodruff, cam and crankshaft gear mtg.	2
9	C 20327	CAMSHAFT - engine (includes C 20233 Pin)	1
10	C 20233	PIN - camshaft center	1
11	C 22587	PISTON AND PIN ASSEMBLY - standard	2
11	C 22588	PISTON AND PIN ASSEMBLY - (.005" oversize)	2
11	C 22589	PISTON AND PIN ASSEMBLY - (.010" oversize)	2
11	C 22590	PISTON AND PIN ASSEMBLY - (.020" oversize)	2
11	C 22591	PISTON AND PIN ASSEMBLY - (.030" oversize)	2
11	C 22592	PISTON AND PIN ASSEMBLY - (.040" oversize)	2
12	C 20379	PIN - piston	2
13	C 20380	RETAINER - piston pin	4
14	C 20381	CONNECTING ROD ASSEMBLY	2
15	C 20481	BUSHING - piston pin	2
16	C 20402	BOLT - connecting rod	4
17	C 20382	RING SET - piston (standard)	2
17	C 20383	RING SET - piston (.005" oversize)	2
17	C 20384	RING SET - piston (.010" oversize)	2
17	C 20386	RING SET - piston (.020" oversize)	2
17	C 20394	RING SET - piston (.030" oversize)	2
17	C 20400	RING SET - piston (.040" oversize)	2
18	C 20403	BEARING - connecting rod (standard)	4
18	C 20408	BEARING - connecting rod (.002" undersize)	4
18	C 20409	BEARING - connecting rod (.010" undersize)	4
18	C 20410	BEARING - connecting rod (.020" undersize)	4
18	C 20480	BEARING - connecting rod (.030" undersize)	4
19	C 20482	WASHER - flywheel mtg.	1
20	126- 13	KEY - flywheel mtg.	1
21	C 18291	BOLT - flywheel mtg. special	1
22	R 13338	RETAINER - crankshaft gear	1
23	C 20219	WASHER - retaining, crankshaft gear	1
24	C 22595	CRANKSHAFT - engine	1
25	92- 7	LOCKWASHER - 7/16" flywheel mtg.	1
26	C 22262	GEAR - crankshaft	1
27	C 22263	SPACER - flyball	1
28	C 22264	PLATE - flyball	1

ENGINE BLOCK AND ATTACHING PARTS - 646 and 646BH



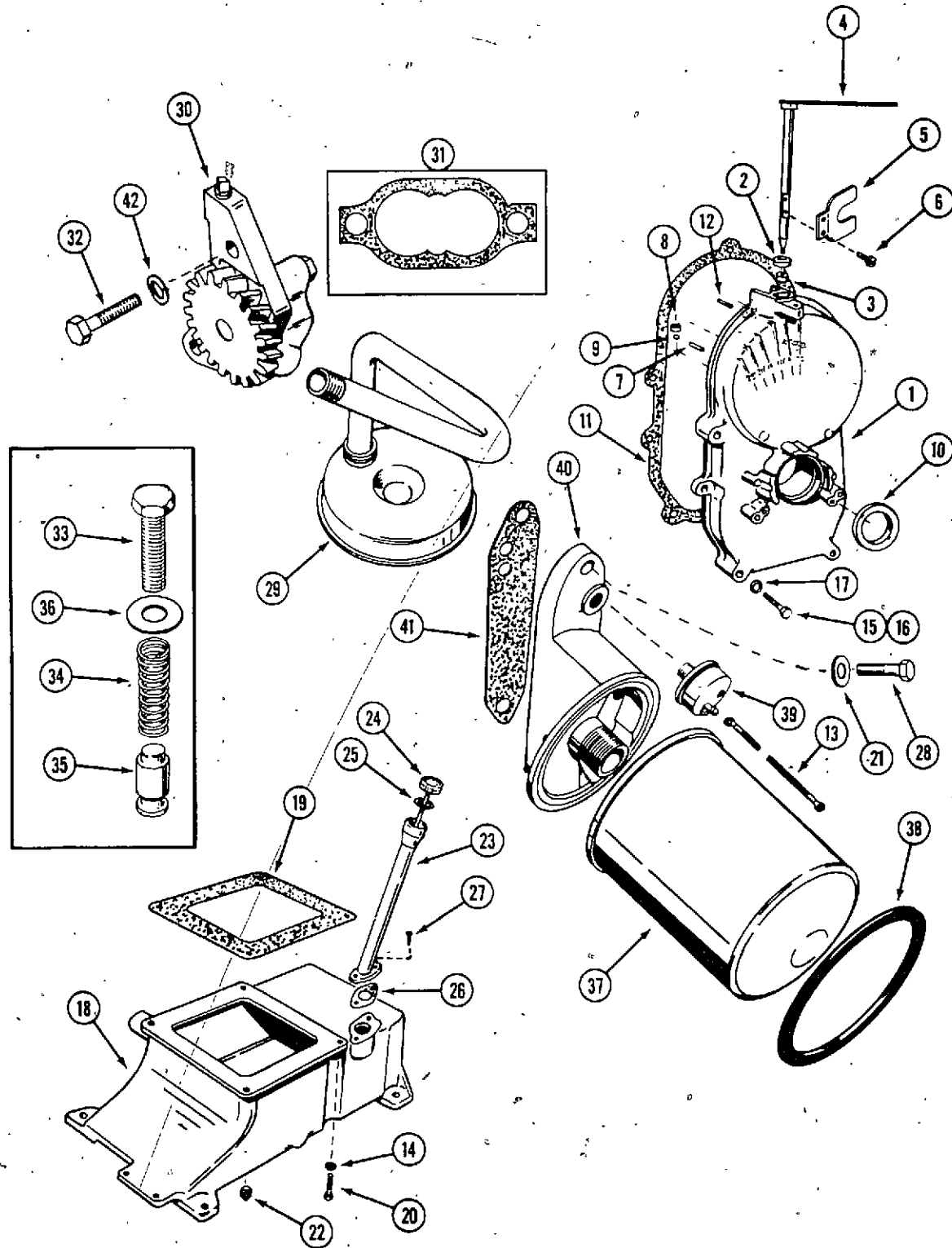
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 20489	BLOCK ASSEMBLY - cylinder, standard bore	1
2	41- 26	PLUG - camshaft expansion	1
3	C 22322	SCREW - bearing plate, rear	5
4	C 22618	BEARING - crankshaft, standard (undersize see below)	2
5	C 20267	WASHER - thrust, crankshaft bearing	2
6	C 20511	KIT - gasket, bearing plate	1
7	C 20512	PLATE - bearing (excludes bearing)	1
8	C 20513	BEARING - camshaft, front or rear	2
9	C 20271	SEAL - bearing plate	1
10	C 20272	PIN - main bearing stop	4
11	C 22265	SCREW - #8 x 3/4" rd. hd. sheet metal	1
12	92- 5	LOCKWASHER - rear bearing plate	5
13	C 20520	TUBE - oil, crankcase	1
14	C 20528	INSERT - valve seat, intake (oversize see page 15)	2
15	C 20523	INSERT - valve seat, exhaust (oversize see page 15)	2
16	C 20534	GUIDE - valve, intake	2
17	C 20533	GUIDE - valve, exhaust	2
18	C 22603	BLOCK ASSEMBLY - short (includes: cylinder and crankcase, all bearings, crankshaft, camshaft, governor gear case, rods, pistons, rings, valves, oil pump, breather tube, camshaft gear and crankshaft gear)	1
19	C 20490	CAP - breather tube	1
20	C 20491	TUBE - breather	1
21	C 20492	BAFFLE - breather tube	1
22	C 20493	SEAL - o-ring, breather tube	1
23	C 20536	CLAMP - breather cap	1
24	C 20504	SCREEN - breather	1
25	C 20540	BOLT - 5/16" x 1-1/4" n.c. hex	8
26	C 20541	BOLT - 5/16" x 1-3/4" n.c. hex	10
27	C 20248	WASHER - 5/16"	18
28	C 20499	GASKET - cylinder head	2
29	C 20501	HEAD - cylinder L.H.	1
30	C 20503	HEAD - cylinder R.H.	1
31	C 22619	BEARING - crankshaft, (.002 undersize)	2
31	C 22620	BEARING - crankshaft, (.010 undersize)	2

ENGINE BLOCK AND ATTACHING PARTS - 646 and 646BH

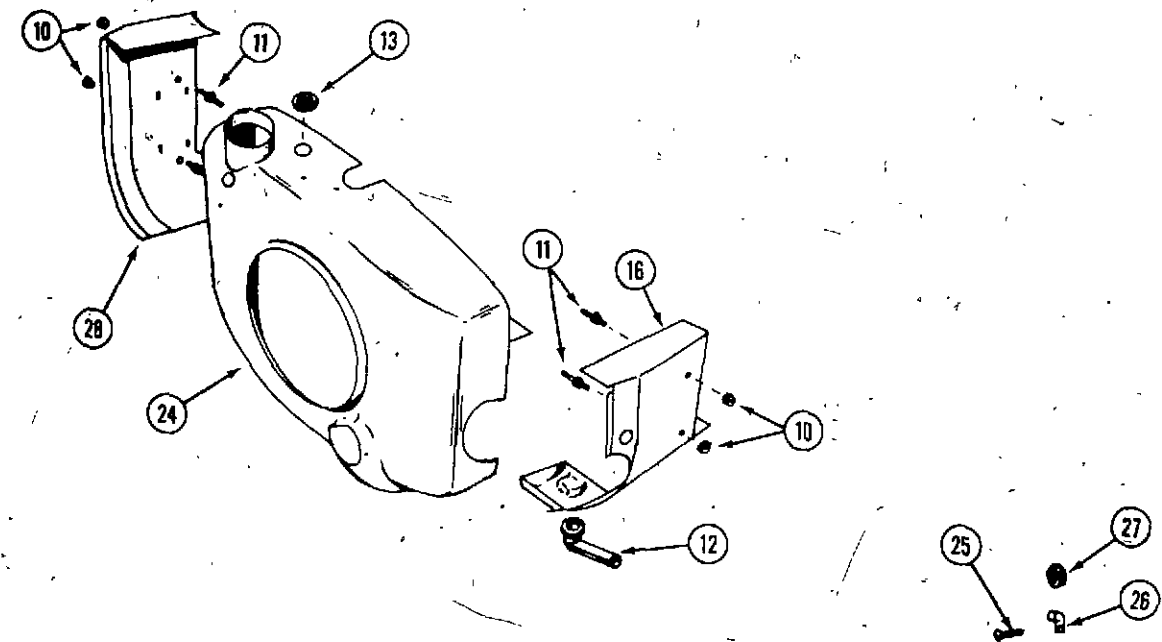
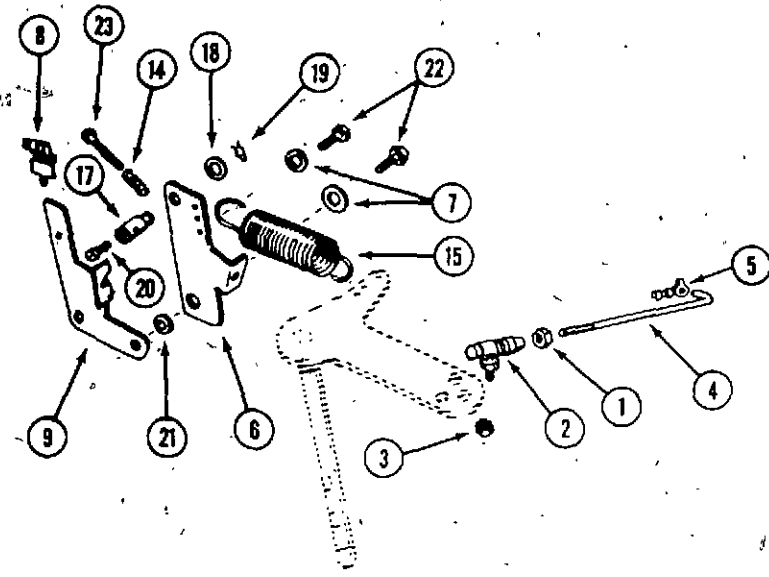


REF.	PART NO.	DESCRIPTION	REQ'D
31	C 22621	BEARING - crankshaft (.020 undersize)	2
31	C 22622	BEARING - crankshaft (.030 undersize)	2
32	C 20494	COVER - valve	2
33	C 20495	GASKET - cover, valve	2
34	C 20498	SEAL - valve, intake	2
35	13- 436	BOLT - valve cover	2
36	C 20247	WASHER - valve cover, copper	2
37	C 20517	ROTATOR - valve	4
38	C 20293	SPRING - valve	4
39	C 20294	LOCK - valve and spring	8
40	C 20276	TAPPET - valve, standard	4
40	C 20470	TAPPET - valve, .001" oversize	2
40	C 20471	TAPPET - valve, .002" oversize	2
40	C 20277	TAPPET - valve, .005" oversize	4
41	C 20521	VALVE - intake	2
42	C 20522	VALVE - exhaust	2
43	C 20524	INSERT - valve seat, exhaust (.002" oversize)	2
43	C 20525	INSERT - valve seat, exhaust (.005" oversize)	2
43	C 20526	INSERT - valve seat, exhaust (.010" oversize)	2
43	C 20527	INSERT - valve seat, exhaust (.025" oversize)	2
44	C 20529	INSERT - valve seat, intake (.002" oversize)	2
44	C 20530	INSERT - valve seat, intake (.005" oversize)	2
44	C 20531	INSERT - valve seat, intake (.010" oversize)	2
44	C 20532	INSERT - valve seat, intake (.025" oversize)	2
	C 20655	KIT - gasket, complete engine	1
	C 20754	KIT - gasket, carbon removal (includes: valve cover gaskets, cylinder head gaskets, intake manifold gaskets and exhaust gaskets)	1
	C 20755	KIT - overhaul, engine (standard) includes: valves, valve spring and retainers, ring set, oil filter, breather tube, points, plugs, condenser, crankshaft retainer ring and gasket kit	1

OIL BASE, OIL PUMP AND GEAR COVER - 646 and 646BH



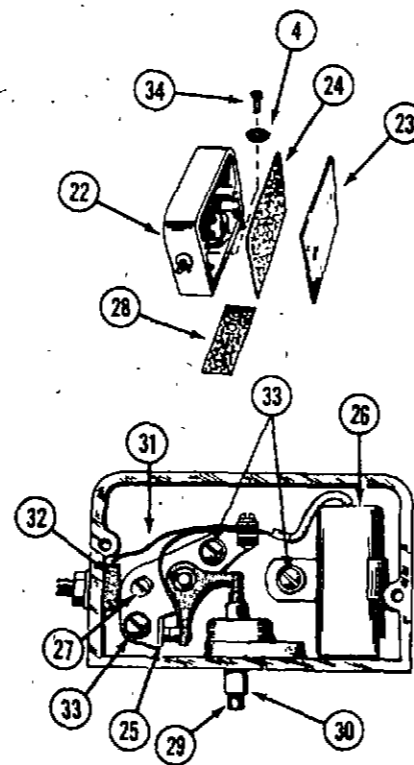
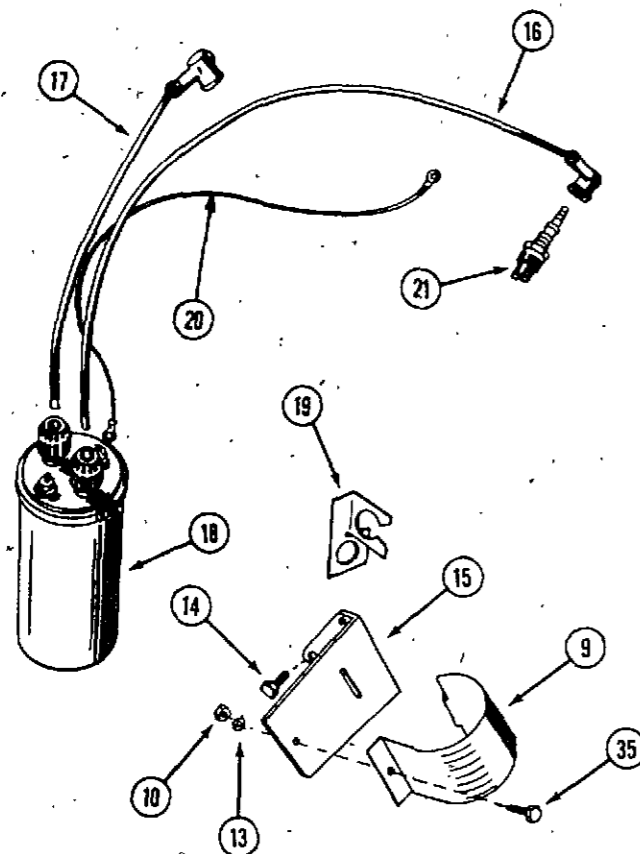
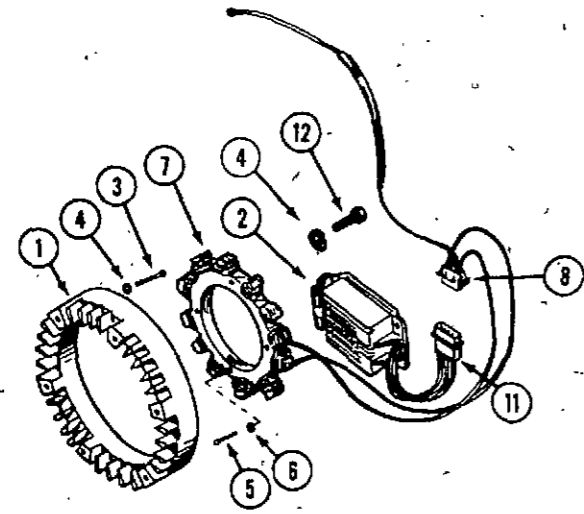
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 22357	COVER ASSEMBLY - gear	1
2	C 20310	SEAL - oil, governor shaft	1
3	C 20544	BEARING - governor shaft, upper	2
4	C 22353	SHAFT AND ARM ASSEMBLY - governor	1
5	C 20307	YOKE - governor shaft	1
6	182- 84	SCREW - 32 x 3/8", pan head	2
7	C 20309	PIN - stop, governor cup	1
8	C 20544	BEARING - governor shaft, lower	1
9	211- 5	BEARING - ball, governor shaft	1
10	C 20312	SEAL - gear cover	1
11	C 20552	GASKET - gear cover	1
12	C 20314	PIN - gear cover	1
13	C 22366	WIRE - lead, oil indicator	1
14	92- 6	LOCKWASHER - oil base mtg.	4
15	13- 528	BOLT - 5/16 x 1-3/4" n.c. hex	4
16	13- 536	BOLT - 5/16 x 2-1/4" n.c. hex	1
17	92- 5	LOCKWASHER - 5/16"	5
18	C 22362	BASE - oil	1
19	C 20555	GASKET - oil base	1
20	C 20557	BOLT - oil base to block	4
21	C 20331	WASHER - copper	2
22	221- 14	PLUG - oil drain 1/2"	1
23	C 20563	TUBE - oil filler (used with vacuum fuel pump)	1
24	C 20553	CAP - oil filler	1
25	C 20554	GASKET - oil cap	1
26	C 20564	GASKET - tube, oil filler	1
27	13- 410	BOLT - oil filler tube mtg.	2
28	13- 516	BOLT - 5/16 x 1" n.c. hex	2
29	C 20570	INTAKE - oil pump (includes cup, screen and pipe)	1
30	C 20323	OIL PUMP ASSEMBLY (internal components NSS)	1
31	C 20325	KIT - gasket oil pump	1
32	C 22364	BOLT - oil pump mtg	2
33	14- 612	BOLT - 3/8" n.c. hex, oil by-pass	1
34	C 20320	SPRING - oil by-pass	1
35	C 20322	VALVE - oil by-pass	1
36	C 20574	WASHER - oil by-pass	1
37	C 25042	FILTER - oil	1
38	C 20577	GASKET - oil filter	1
39	C 20568	SWITCH - oil indicator	1
40	C 20565	ADAPTER - oil filter (used on early models)	1
41	C 20330	GASKET - adapter oil	1
42	92- 4	LOCKWASHER - 1 4"	2



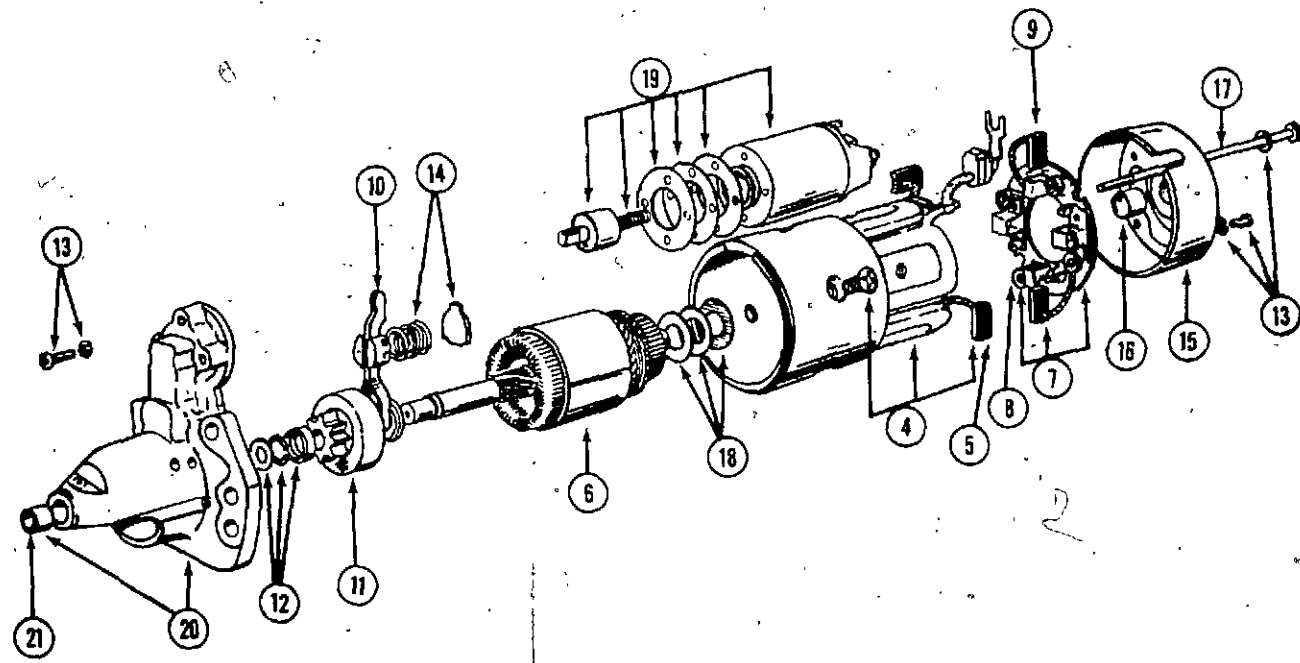
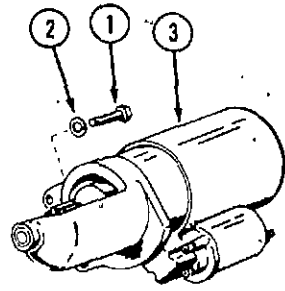
GOVERNOR AND BLOWER HOUSING - 646 and 646BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	129- 665	NUT - lock, governor throttle	1
2	C 20569	BALL JOINT - governor throttle rod	1
3	193- 1000	NUT - ball joint	1
4	C 20572	ROD - governor throttle	1
5	C 20573	CLIP - rod, governor throttle	1
6	C 22404	ARM - governor	1
7	195- 14	WASHER	2
8	C 20374	CLIP - throttle cable	1
9	C 20370	BRACKET - governor control	1
10	25- 118	NUT - baffle mtg.	4
11	C 20621	STUD - cylinder air baffle	4
12	C 20620	TUBE - drain, oil filter	1
13	C 22401	PLUG - blower housing	1
14	C 20371	SPRING - governor idle	1
15	C 20376	SPRING - governor	1
16	C 22388	BAFFLE - cylinder R.H.	1
17	C 20372	SWIVEL - governor arm	1
18	195- 14	WASHER - #6	1
19	136- 2	PIN - cotter	1
20	169- 74	SCREW - #8 x 5/16"	1
21	C 20375	SPACER - governor bracket	1
22	121- 3	BOLT - locking 1/4 x 1/2" n.c. hex.	2
23	C 22414	SCREW - governor idle #6 x 1" rd. hd.	1
24	C 22387	HOUSING - blower	1
25	C 22275	SCREW - #6 x 3/8"	1
26	C 20626	CLIP - hose	1
27	C 20625	GROMMET - rubber	1
28	C 20580	BAFFLE - cylinder L.H.	1

IGNITION AND CHARGING SYSTEM - 646 and 646BH

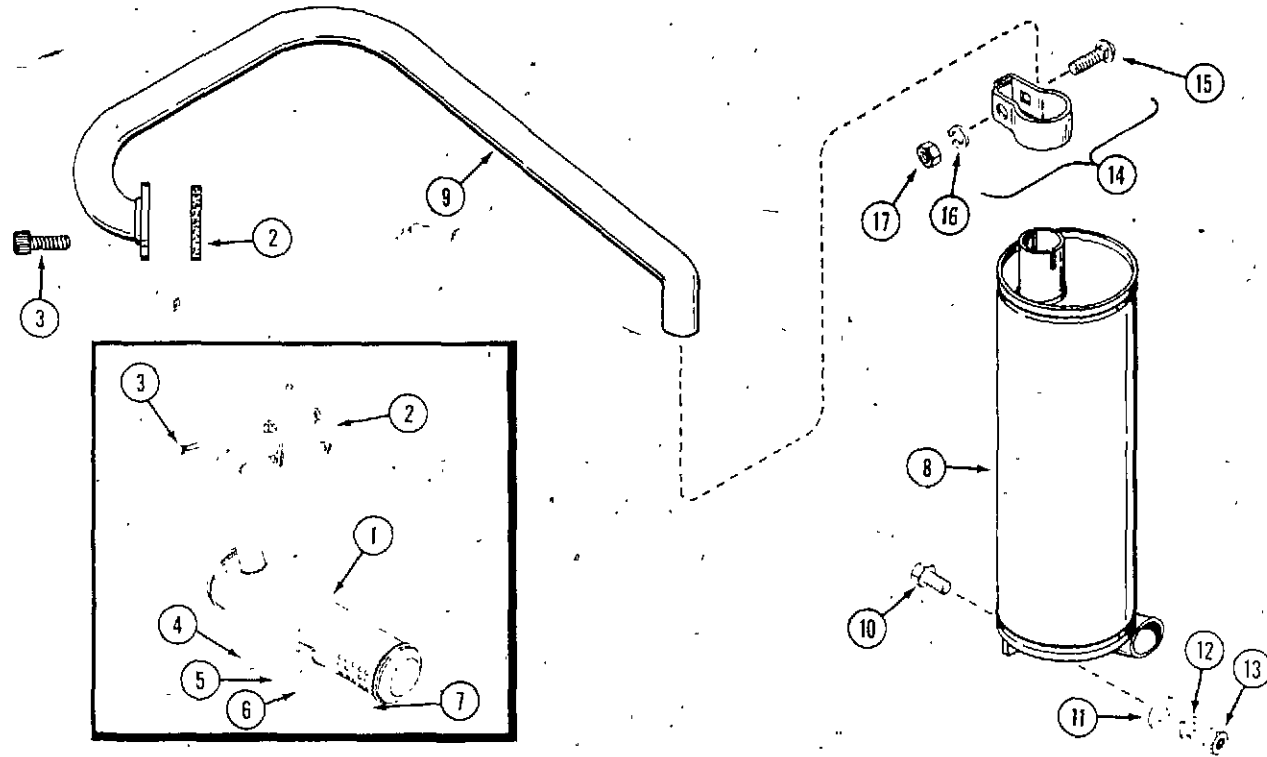


REF.	PART NO.	DESCRIPTION	REQ'D
1	C 20591	ROTOR - alternator	1
2	C 20592	REGULATOR, RECTIFIER ASSEMBLY	1
3	C 20593	SCREW - rotor mounting	6
4	92- 4	LOCKWASHER	11
5	173- 219	SCREW - stator mounting	3
6	92- 3	LOCKWASHER - stator mtg.	3
7	C 22391	STATOR ASSEMBLY (includes item 8)	1
8	C 20596	CONNECTOR - socket	1
9	C 22380	CLAMP - coil	1
10	25- 104	NUT - 1/4" hex.	1
11	C 20604	CONNECTOR - plug, regulator	1
12	13- 414	SCREW - 1/4 x 7/8" regulator, rectifier, mtg.	3
13	C 22378	LOCKWASHER - 1/4"	1
14	C 22369	SCREW - lock, #10 x 5/16" hex.	1
15	C 22381	BRACKET - coil mtg.	1
16	C 24306	CABLE - spark plug 17"	1
17	C 24307	CABLE - spark plug 10"	1
18	C 20349	COIL - ignition	1
19	C 20344	BRACKET - cable spark plug	1
20	C 22368	WIRE - coil to breaker contacts	1
21	C 24308	SPARK PLUG	2
22	C 20514	BOX ASSEMBLY - breaker contact (includes items 23, 24, 25 & 26)	1
23	C 20318	COVER - breaker box	1
24	C 20321	GASKET - breaker box	1
25	C 20484	POINT SET - breaker contacts	1
26	C 20343	CONDENSER - breaker contacts	1
27	C 20332	CAM - point gap adjust	1
28	C 20505	GASKET - breaker box mtg.	1
29	C 22296	PLUNGER - breaker box	1
30	C 22297	GUIDE - plunger	1
31	C 20515	STRAP - point set to terminal block	1
32	C 20516	BLOCK AND TERMINAL ASSEMBLY	1
33	C 20548	SCREW - #8 x 1/4"	3
34	165- 43	SCREW - 1/4 x 3/4" breaker box mtg.	2
35	13- 410	BOLT - 1/4 x 5/8" hex. head	1



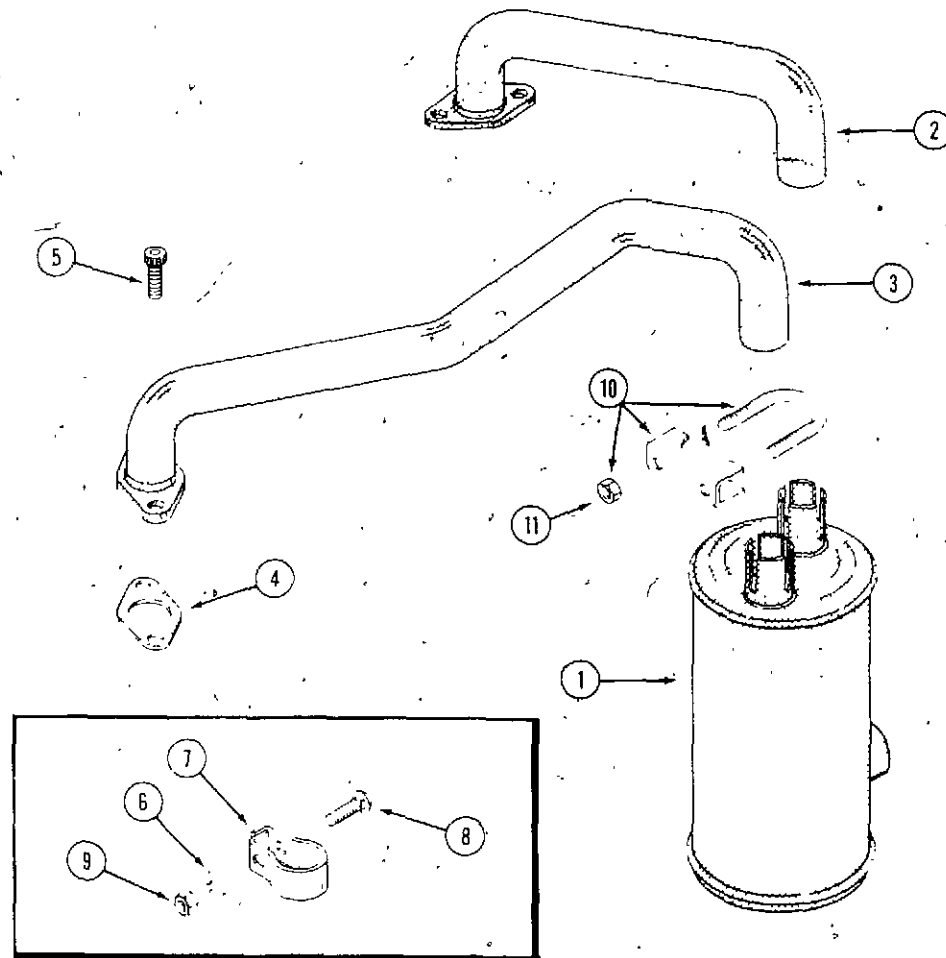
STARTER MOTOR - 646 and 646BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	13- 620	BOLT - 3/8 x 1-1/4" hex. head	2
2	92- 6	LOCKWASHER - 3/8"	2
3	C 22433	MOTOR - starting, 12 volt	1
4	C 22460	COIL ASSEMBLY - field	1
5	C 22458	BRUSH - positive	2
6	C 22447	ARMATURE - starter motor	1
7	C 22459	HOLDER ASSEMBLY - brush	1
8	C 22443	SPRING - brush	4
9	C 22444	BRUSH - negative	2
10	C 22737	LEVER ASSEMBLY - clutch fork	1
11	C 22446	CLUTCH ASSEMBLY - engaging, starter	1
12	C 22442	STOP SET - pinion	1
13	C 22437	SCREW SET - starter motor	1
14	C 22435	SPRING SET - lever	1
15	C 22445	END CAP - rear, starter (includes bearing)	1
16	C 22436	BEARING - rear	1
17	C 22439	BOLT - through	2
18	C 22448	WASHER SET - starter motor	1
19	C 22438	SWITCH ASSEMBLY - solenoid	1
20	C 22440	FRAME ASSEMBLY - drive end (includes bearing)	1
21	C 22441	BEARING - front	1



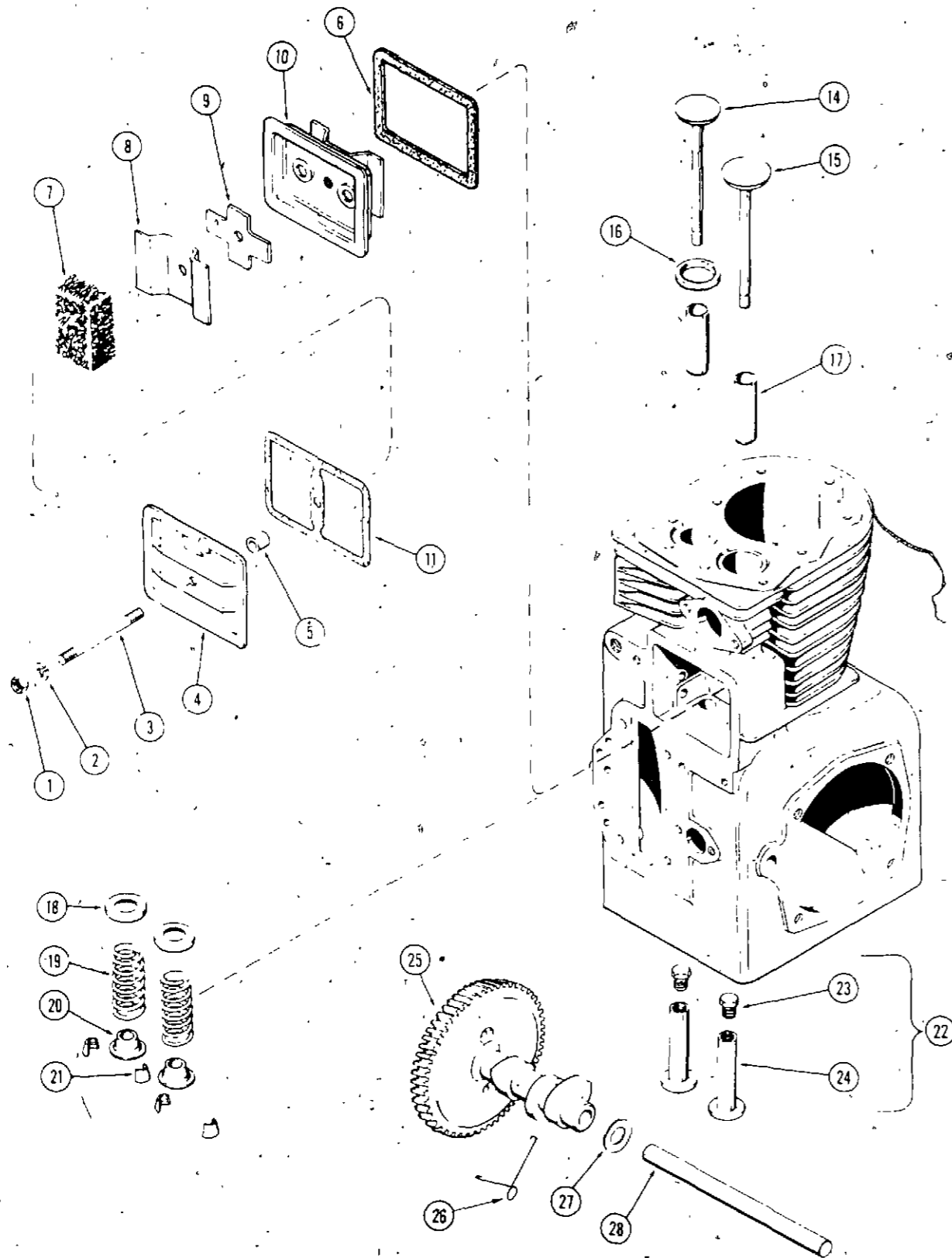
EXHAUST SYSTEM - 644 and 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 21977	MUFFLER - exhaust (used prior to S/N 9731697)	1
2	C 10372	GASKET - exhaust	1
3	61- 510	SCREW - 5/16" x 5/8" NC socket head	1
4	113- 207	BOLT - 3/8"	2
5	192- 21	LOCKWASHER - 3/8"	1
6	195- 525	WASHER - 3/8"	1
7	129- 103	NUT - 3/8"	1
8	C 23971	MUFFLER - exhaust (used S/N 9731697 and after)	1
9	C 23633	PIPE - exhaust (used S/N 9731697 and after)	1
10	113- 103	BOLT - 5/16" X 1" hex	1
11	195- 521	WASHER - 5/16"	1
12	192- 20	LOCKWASHER - 5/16"	1
13	129- 102	NUT - 5/16" hex	1
14	NSS	CLAMP - muffler (used S/N 9731697 and after) (use L47766)	1
15	111- 204	BOLT - 5/16" X 1-1/4" rd. hd. square neck N.C.	1
16	192- 45	LOCKWASHER - 5/16"	1
17	129- 518	NUT - 5/16" N.C.	1



EXHAUST SYSTEM - 646 and 646BH

1	C 20109	MUFFLER - exhaust	1
2	C 21640	PIPE - exhaust, left	1
3	C 21639	PIPE - exhaust, right	1
4	C 18250	GASKET - exhaust	2
5	61- 510	BOLT - 5/16" x 3/4" NC socket head	4
6	192- 45	LOCKWASHER - 5/16"	6
7	NSS	CLAMP - muffler (use L47766)	2
8	111- 204	BOLT - 5/16" x 1-1/4" NC rd. hd. square neck	2
9	129- 518	NUT - 5/16" NC hex	2
10	L 47766	CLAMP - muffler	2
11	129- 102	NUT - 5/16" - 18 hex	2



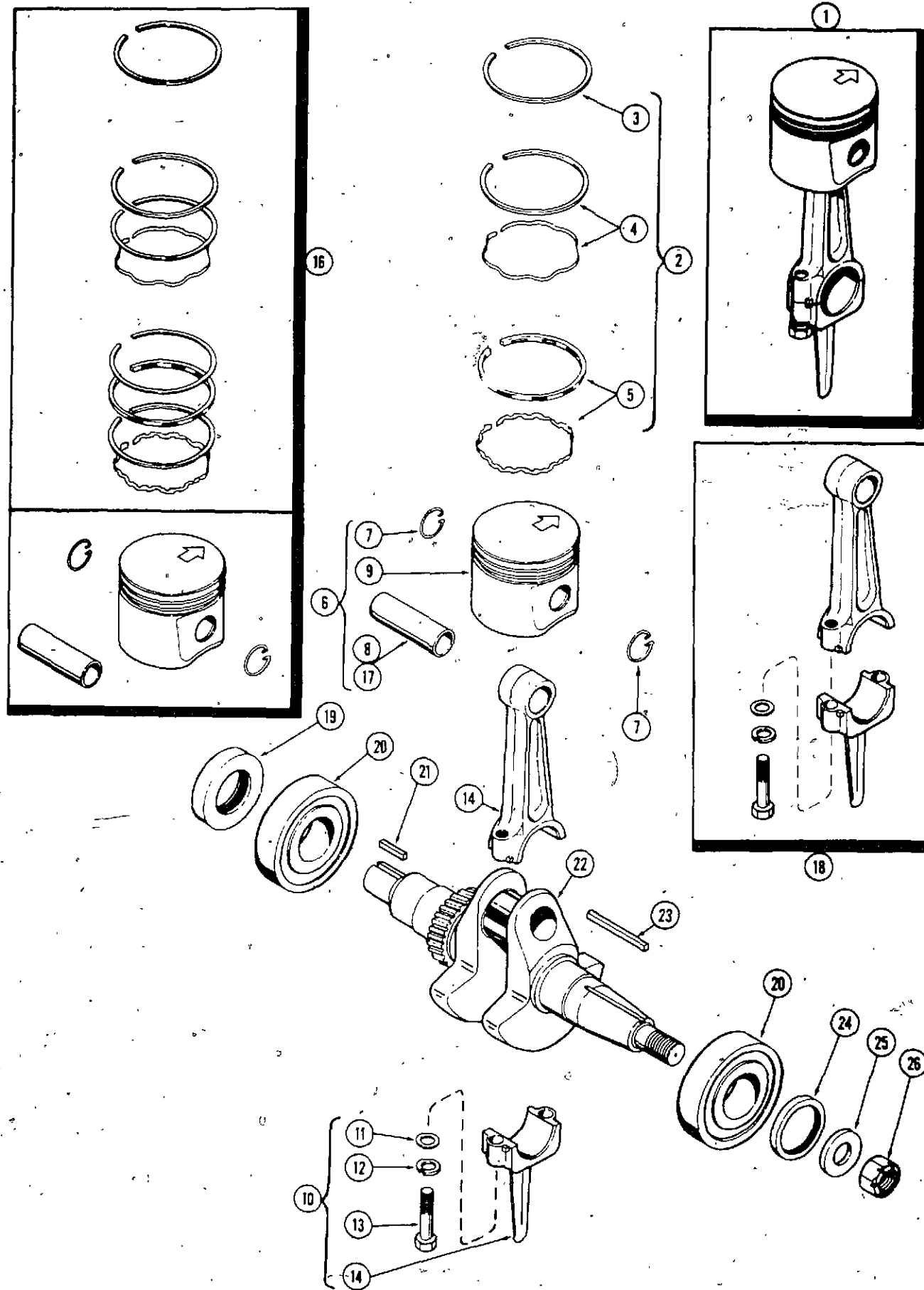
CRANKCASE BREATHER – 644 and 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	129- 409	NUT - 1/4" NC hex	1
2	92- 4	LOCKWASHER - 1/4"	1
3	KO 275220	STUD - valve cover	1
4	KO 275143	COVER - valve	1
5	KO 231032	SEAL - breather	1
6	KO 235048	GASKET - breather plate	1
7	KO 235118	FILTER - breather	1
8	KO 235117	BAFFLE - breather	1
9	KO 235047	REED - breather	1
10	KO 235631	PLATE - breather	1
11	KO 275144	GASKET - valve cover	1

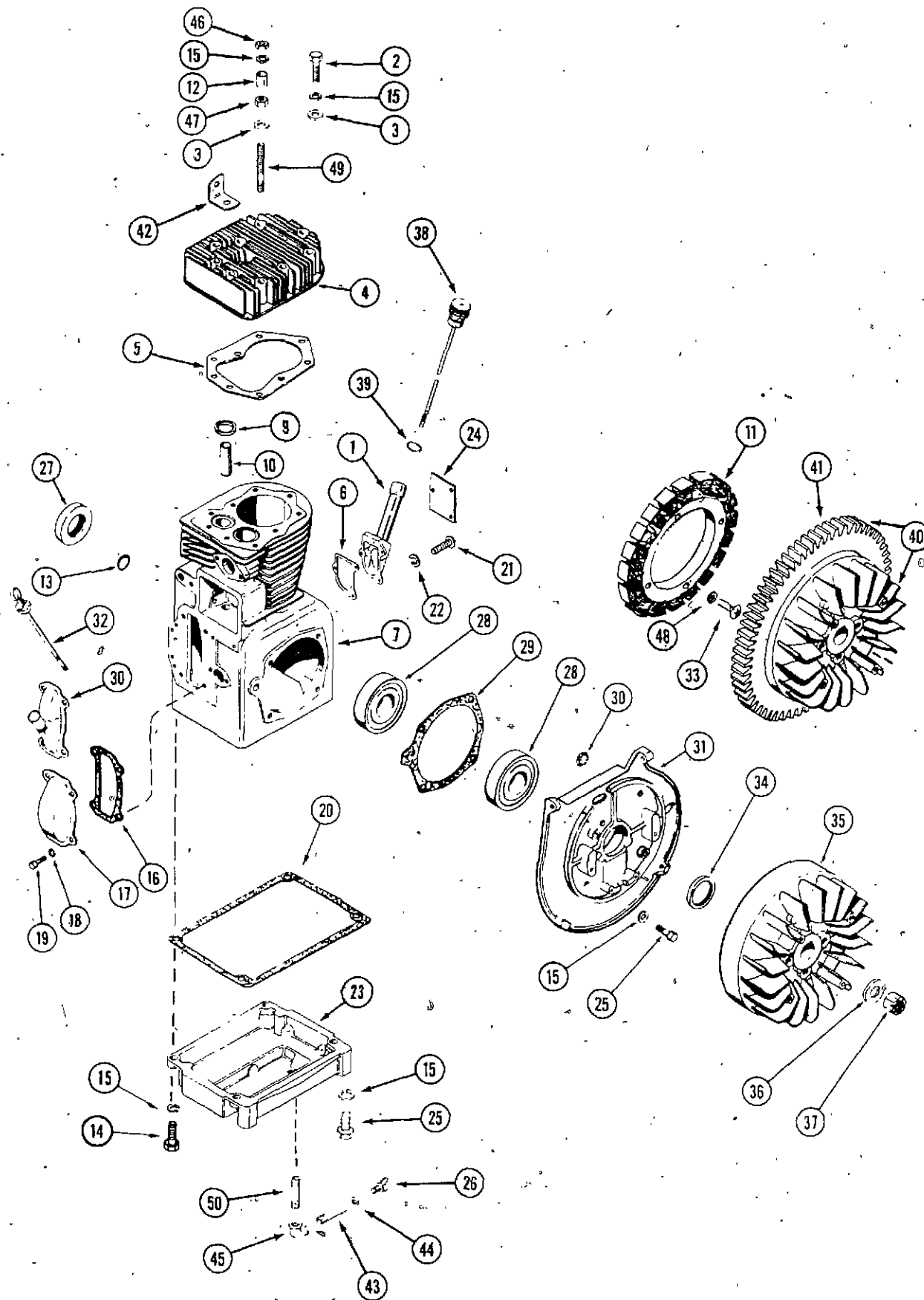
CAMSHAFT AND VALVES – 644 and 644BH

14	KO 237672	VALVE - exhaust	1
15	KO 235582	VALVE - intake	1
16	KO 230170	INSERT - exhaust valve seat	1
17	KO 235007-S	GUIDE - valve	2
18	KO 235011	SEAT - valve spring	2
19	KO 235168	SPRING - valve	2
20	KO 230020	ROTATOR - valve (Furnished in pairs only)	2
21	C 24884	LOCK - valve retainer (includes both halves)	2
22	KOD235327	LIFTER ASSEMBLY	2
23	NSS	SCREW - tappet adjusting	1
24	NSS	LIFTER - valve	1
25	C 25043	CAMSHAFT ASSEMBLY	1
26	V 34346	SPRING - actuating	1
27	KO 275066	SPACER - camshaft, .005"	UAR
27	KO 275067	SPACER - camshaft, .010"	UAR
28	KO 235053	PIN - camshaft	1

CRANKSHAFT, PISTON AND CONNECTING ROD - 644 and 644BH

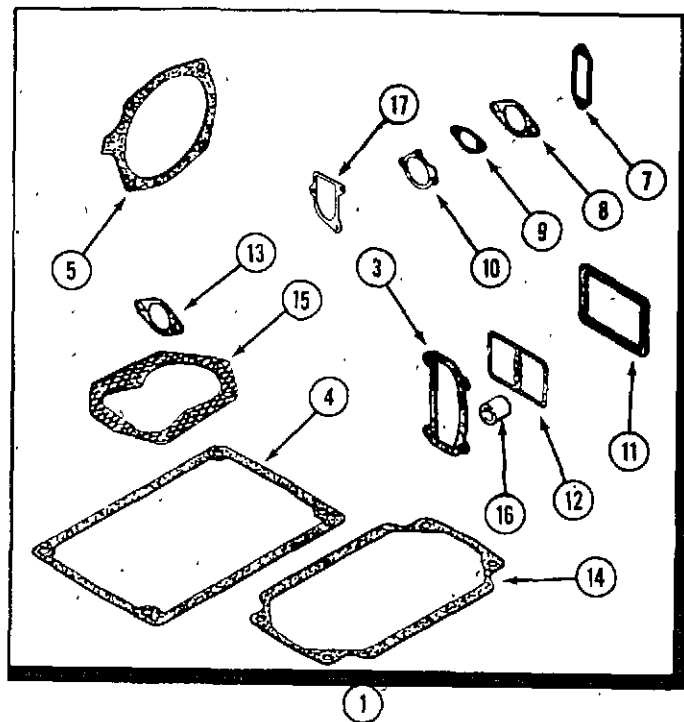


REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	PISTON AND ROD ASSEMBLY (Std. size)	1
2	KO 236763	RING SET - piston (For oversize, see item 16)	1
3	NSS	RING - top compression	1
4	NSS	RING - 2nd compression (includes expander)	1
5	NSS	RING - oil (includes expander)	1
6	KOA237401	PISTON ASSEMBLY (For oversize, see item 15)	1
7	KO 235811	RETAINER - piston pin	2
8	NSS	PIN - piston	1
9	NSS	PISTON	1
10	KOA237344	CONNECTING ROD ASSEMBLY (For undersize, see item 18)	1
11	KO 235003	WASHER - special	2
12	92- 6	LOCKWASHER - 3/8"	2
13	NSS	SCREW - cap, connecting rod	2
14	NSS	ROD - connecting	1
15	KOA237402	PISTON ASSEMBLY - .003 oversize (use std. ring set)	1
15	KOA237403	PISTON ASSEMBLY - .010" oversize	1
15	KOA237404	PISTON ASSEMBLY - .020" oversize	1
15	KOA237405	PISTON ASSEMBLY - .030" oversize	1
16	KO 236764	RING SET - piston .010" oversize	1
16	KO 236765	RING SET - piston .020" oversize	1
16	KO 236766	RING SET - piston .030" oversize	1
17	NSS	PIN - piston .005" oversize	1
18	C 23135	CONNECTING ROD ASSEMBLY - .010" undersize	1
19	R 16287	OIL SEAL - crankshaft rear	1
20	40035	BEARING - crankshaft ball	2
21	W 5063-S	KEY - 1/4" Sq. x 3/4" (Pump Coupling)	1
22	C 25054	CRANKSHAFT	1
23	H 61168	KEY - flat 3/16" x 3/16" x 1-3/8" (Flywheel)	1
24	C 18097	OIL SEAL - crankshaft front	1
25	195- 541	WASHER - 5/8"	1
26	131- 301	NUT - special Marsden 5/8" NF	1



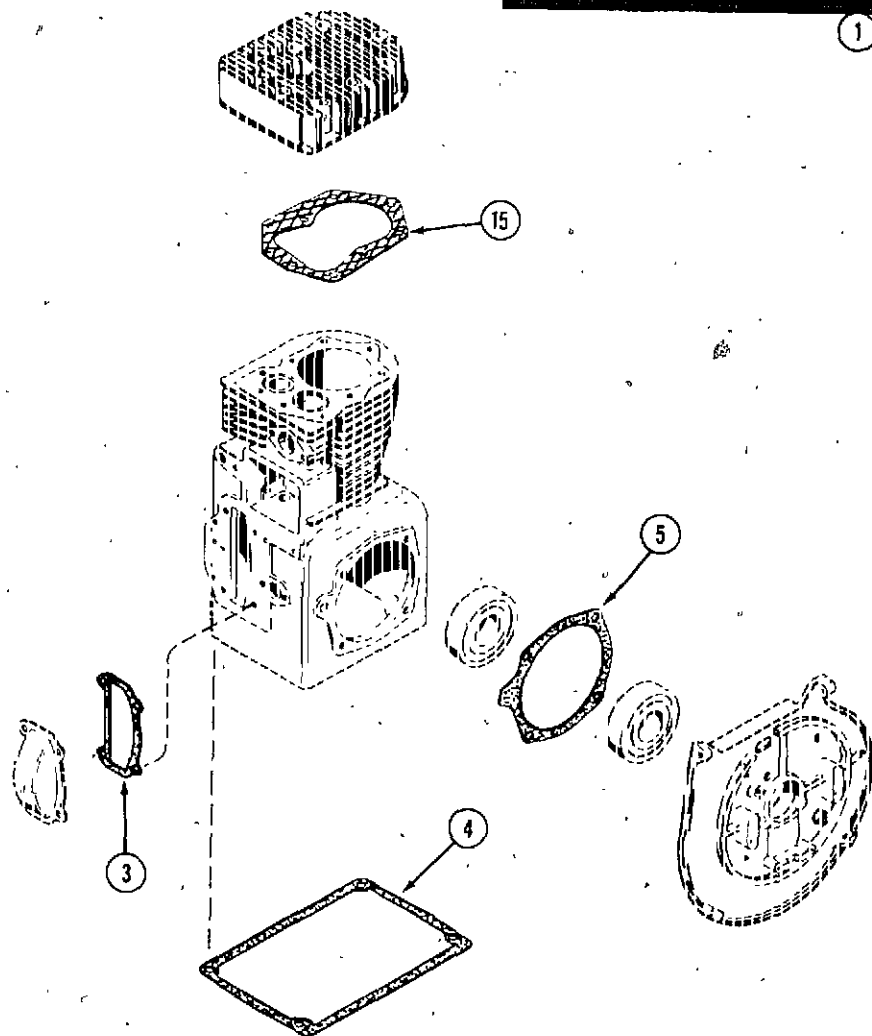
ENGINE BLOCK AND ATTACHING PARTS - 644 and 644BH

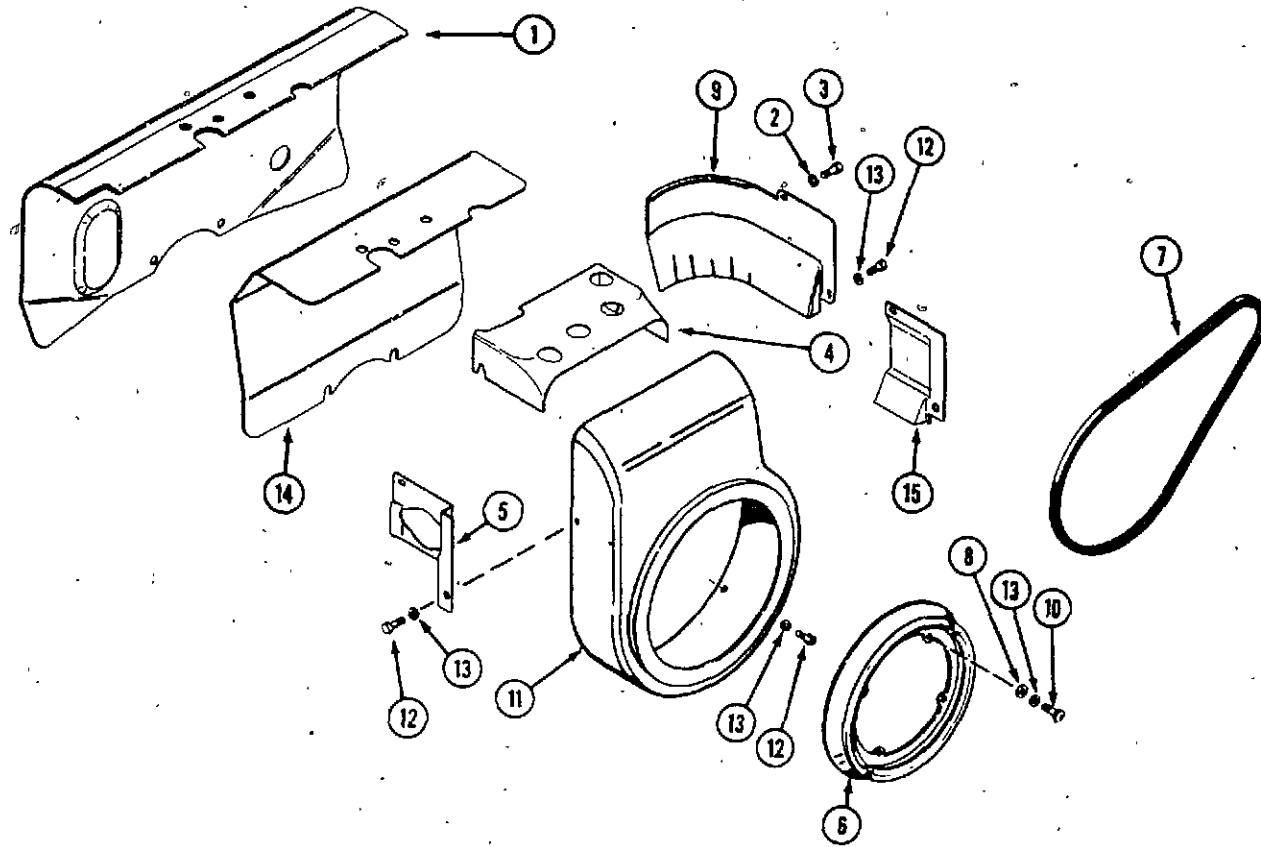
REF.	PART NO.	DESCRIPTION	REQ'D
1	KO 236886	FILLER TUBE - (used prior to S/N 9731731)	1
2	KO 270158	BOLT - cylinder head special 3/8" x 1-1/2" NC hex.	3
3	KO 270889	WASHER - cylinder head bolt.	9
4	KO 237670	HEAD - cylinder	1
5	KO 237658	GASKET - head	1
6	KO 237064	GASKET - filler tube	1
7	C 24143	BLOCK ASSEMBLY - cylinder, short (Includes crankshaft and seals, rings, piston, rod assembly, camshaft, valves, bearings, plate and seals, governor gear assembly, cross shaft and gasket kit).	1
9	KO 230170	INSERT - exhaust valve	1
10	KO 235007-S	GUIDE - valve	2
11	V 34427	STATOR - (used S/N 9744750 and after)	1
12	C 21814	SPACER - cylinder head	1
13	41- 18	PLUG - expansion	1
14	113- 209	BOLT - 3/8" x 1-1/2" NC hex plated	4
15	92- 6	LOCKWASHER - 3/8" plated	4
16	KO 235025	GASKET - camshaft cover	1
17	KO 235026	COVER - camshaft gear (used prior to S/N 9731731)	1
18	92- 4	LOCKWASHER - 1/4" plated	4
19	13- 48	BOLT - 1/4" x 1/2" NC, plated	4
20	KO 235353	GASKET - oil pan	1
21	173- 96	SCREW - #10 x 7/16" round head machine	3
22	193- 26	LOCKWASHER - #10 internal tooth	3
23	C 22699	BASE - oil pan	1
24	C 24495	PLATE - oil fill pad (used S/N 9731731 and after)	1
25	113- 207	BOLT - 3/8" x 1" NC socket head	4
26	C 14399	PLUG - oil drain	1
27	R 16287	OIL SEAL - crankshaft rear	1
28	40035	BEARING - crankshaft ball	2
29	KO 235757	GASKET - bearing plate	1
29	KO 235070	GASKET - shim, .010"	1
30	C 24490	FILLER TUBE - (used S/N 9731731 and after)	UAR
31	C 24290	PLATE - bearing (used S/N 9744750 and after)	1
31	C 22700	PLATE - bearing (used prior to S/N 9744750)	1
32	C 24491	DIPSTICK - oil (used S/N 9731731 and after)	1
33	182- 541	SCREW	4
34	C 18097	OIL SEAL - crankshaft front	1
35	KO 235818	FLYWHEEL - (used prior to S/N 9744750)	1
36	195- 541	WASHER - special, plated 21/32" ID x 1-3/8" OD x 1/4"	1
37	131- 301	NUT - special Marsden 5/8"	1
38	C 14954	DIPSTICK ASSEMBLY - (used prior to S/N 9731731)	1
39	A 27365	"O" RING - dipstick (used prior to S/N 9731731)	1
40	C 24883	FLYWHEEL ASSEMBLY - (used S/N 9744750 and after)	1
41	NSS	RING GEAR - (used S/N 9744750 and after)	1
42	KO 235748	STRAP - lifting	1
43	C 19473	PIPE - oil drain extension	1
44	C 14906	GASKET - plug, oil drain	1
45	221- 1375	ELBOW - 90°, 1/4"	1
46	129- 143	NUT - 3/8" NC hex, jam	6
47	129- 103	NUT - 3/8" NC hex	6
48	193- 99	LOCKWASHER	4
49	KO 237277	STUD - cylinder head	6
50	221- 1138	NIPPLE - pipe, 1/4" x 2-1/2"	1



ENGINE GASKET AND SEAL KIT - 644 and 644BH

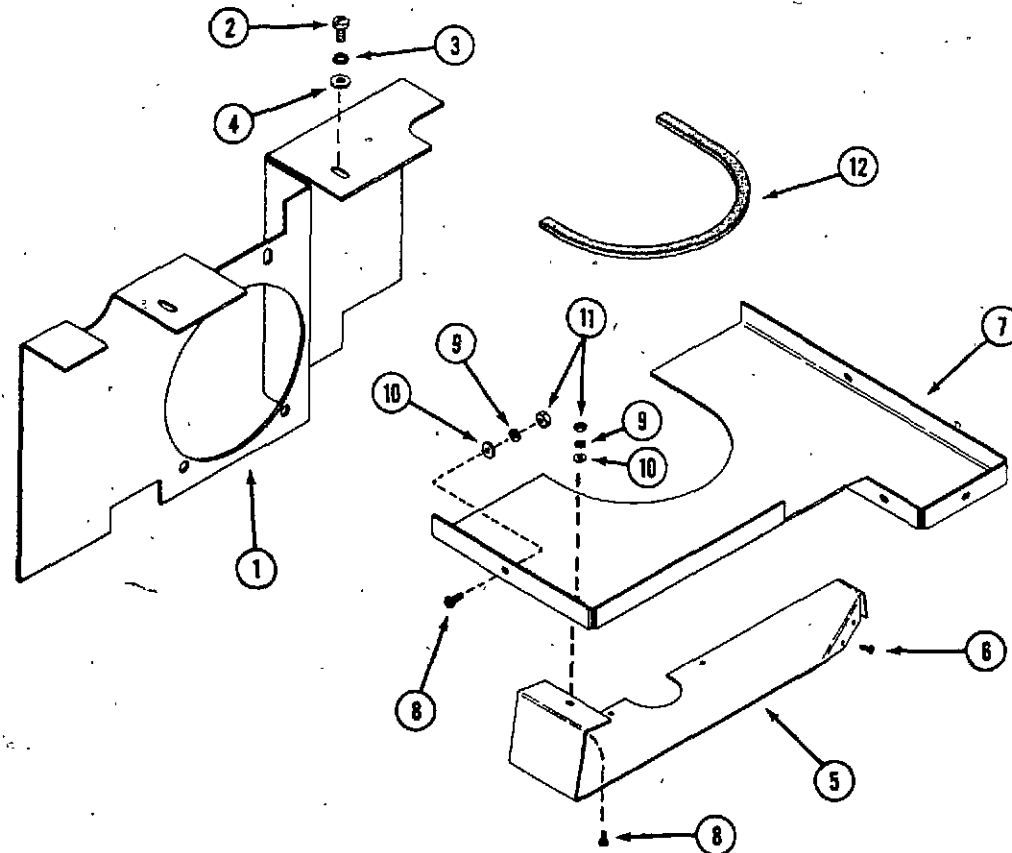
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 23858	KIT - engine gasket	1
3	KO 235025	GASKET - camshaft cover	1
4	KO 235353	GASKET - oil pan	1
5	KO 235757	GASKET - shim, bearing plate (.010")	6
5	KO 235070	GASKET - shim (.010")	UAR
7	KO 220174	GASKET - breaker cover	1
8	C 23860	GASKET - carburetor flange	1
9	C 22738	GASKET - fuel pump flange	1
10	KO 275341	GASKET - carburetor air horn	1
11	KO 235048	GASKET - breather plate	1
12	KO 275144	GASKET - valve cover	1
13	C 10372	GASKET - exhaust	1
14	KO 235057	GASKET - pan (not used)	1
15	KO 237658	GASKET - cylinder head	1
16	KO 231032	SEAL - breather	1
17	KO 237064	GASKET - oil fill tube (14 hp)	1





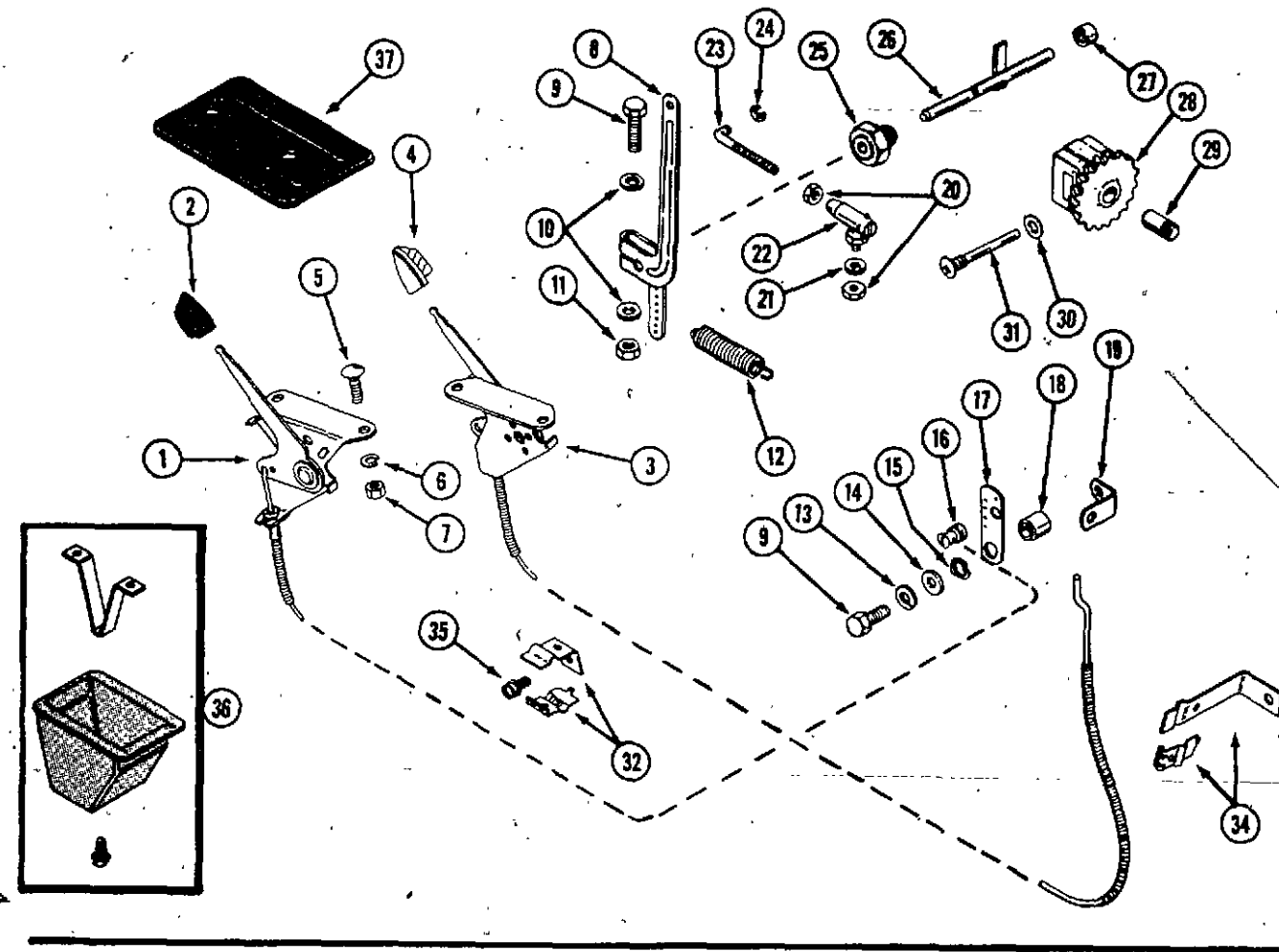
BAFFLES AND SHROUDS - 644 AND 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 19634	DEFLECTOR - engine air (used prior to S/N 9731697)	1
2	92- 4	LOCKWASHER - 1/4" zinc plated	2
3	13- 48	BOLT - 1/4" x 1/2" NC hex, zinc plated	2
4	KO 237677	BAFFLE - cylinder head	2
5	KO 235652	BAFFLE - carburetor side air	1
6	KO 235207	PULLEY - starter (used prior to S/N 9744750)	1
7	C 23902	BELT - drive, starter-generator (used prior to S/N 9744750)	1
8	193- 107	WASHER - 1/4" zinc plated	1
9	KO 235054	BAFFLE - (used prior to S/N 9731697)	4
10	175- 436	SCREW - 1/4" x 5/8" NC truss head Phillips, zinc plated	1
11	KO 235901	HOUSING - blower (used prior to S/N 9731697)	4
11	C 24729	HOUSING - blower (used S/N 9731697 to S/N 9744750)	1
11	C 24879	HOUSING - blower (used S/N 9744750 and after)	1
12	13- 410	BOLT - 1/4" x 3/4" NC hex, zinc plated	1
13	92- 4	LOCKWASHER - 1/4" zinc plated	4
14	C 22684	DEFLECTOR - engine air (used S/N 9731697 and after)	4
15	KO 236676	BAFFLE - cylinder (used S/N 9731697 and after)	1



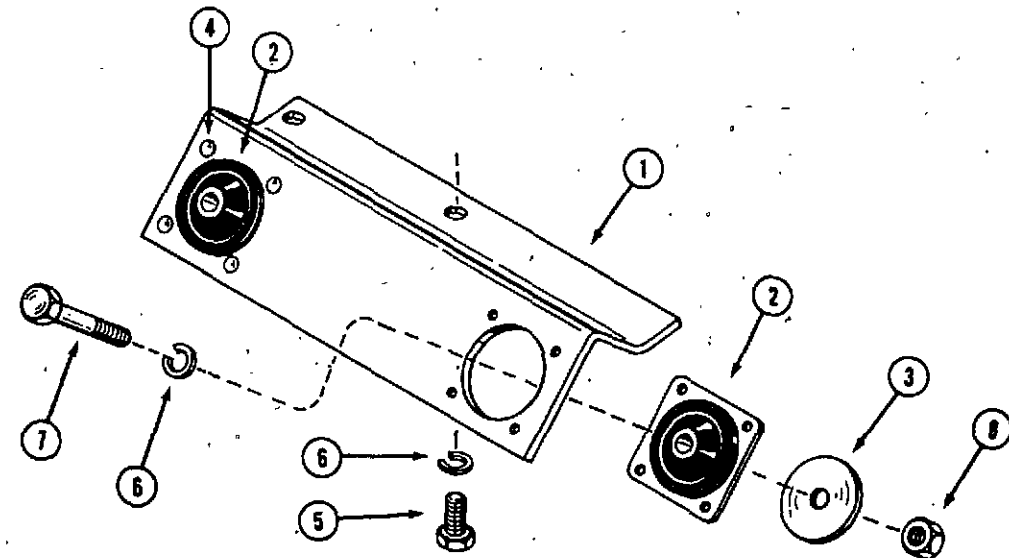
BAFFLES AND SHROUDS - 646 AND 646BH

1	C 18129	SHIELD - engine heat	1
2	182- 525	SCREW - #10 x 3/8" NF pan hd.	2
3	192- 18	LOCKWASHER - #10	2
4	195- 513	WASHER - #10	2
5	C 21547	SHIELD - heat, engine top	1
6	187 1093	SCREW - #8 x 1/2" hex. hd. self tap.	2
7	C 21543	BAFFLE - air cleaner	1
8	182- 528	SCREW - #10 x 1/2" pan head	5
9	192- 18	LOCKWASHER - #10	5
10	195- 513	WASHER - #10	5
11	129- 37	NUT - #10	5
12	C 21638	SEAL - baffle	1



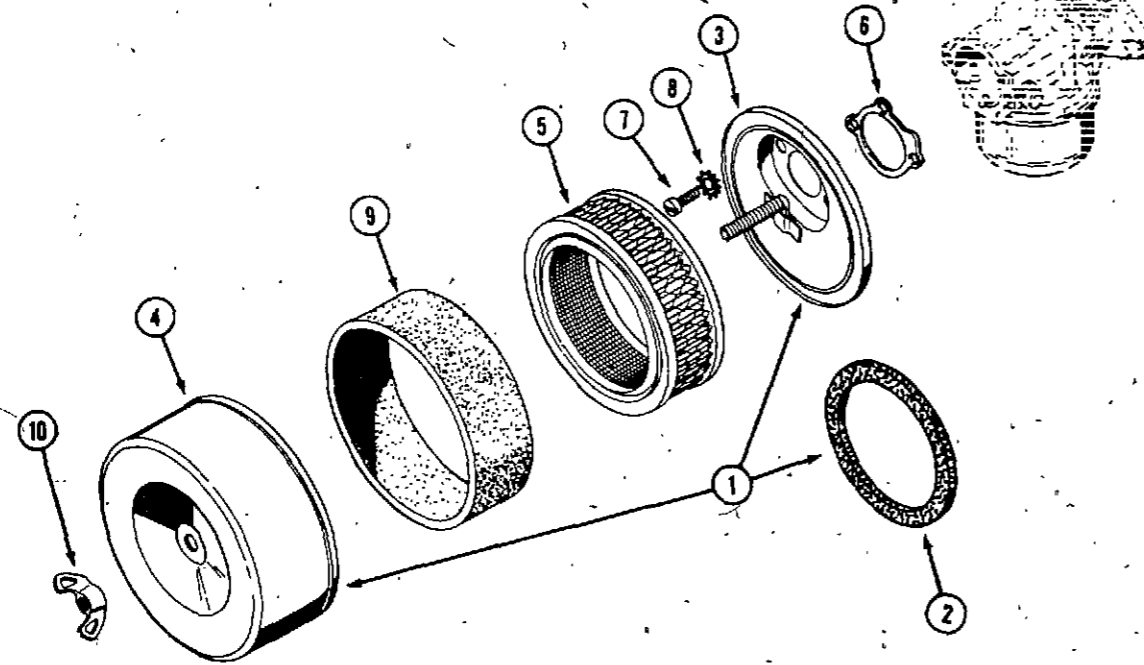
CHOKE THROTTLE AND GOVERNOR

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 18311	CONTROL - throttle (644 and 644BH)	1
1	C 21651	CONTROL - throttle (646 and 646BH)	1
2	C 12224	HANDLE - throttle control, black	1
3	C 18312	CONTROL - choke (644 and 644BH)	1
3	C 18271	CONTROL - choke (646 and 646BH)	1
4	C 14506	HANDLE - choke control, white	1
5	111- 2	BOLT - 10-24 x 3/4" round head, square neck	1
6	192- 18	LOCKWASHER - #10 Std. plated	2
7	129- 17	NUT - #10-24 plated	2
8	KOA237653	LEVER - governor	2
9	113- 17	BOLT - 1/4" x 1-1/4" NC hex	1
10	195- 518	WASHER - 1/4" plated	2
11	129- 409	NUT - 1/4" hex	2
12	KO 235496	SPRING - governor	1
13	92- 4	LOCKWASHER - 1/4" plated	1
14	C 18098	WASHER - thrust	1
15	KO 275690	WASHER - wavy	1
16	HO 43034	CLAMP - swivel, wire	1
17	KO 235086	LEVER - speed control	1
18	KO 235085	SPACER - speed control bracket	1
19	KO 235084	BRACKET - high speed stop	1
20	129- 37	NUT - #10-32 hex	1
21	92- 3	LOCKWASHER - 3/16" plated	2
22	A 10326	JOINT - ball (used prior to Engine S/N 5125238)	1
22	C 25020	JOINT - ball (used Engine S/N 5125238 and after)	1
23	KO 235277	ROD - throttle	1
24	49485	RING - retaining, throttle rod	1
25	KO 235476	BUSHING - governor cross shaft	1
26	C 23126	SHAFT ASSEMBLY - governor cross	1
27	V 34418	BEARING - needle governor shaft	1
28	V 34419	GEAR ASSEMBLY - governor	1
29	KO 235125-S	SHAFT - governor stub	1
30	C 18099	WASHER - governor stop pin	1
31	V 34416	PIN - governor stop	1
32	KOA237559	BRACKET - throttle cable	1
34	KOA236919	BRACKET - choke cable	1
35	V 34421	SCREW - #10 x 3/8" NC fillister head	1
36	NSS	ENCLOSURE - choke and throttle cable (not required, use item 37)	1
37	C 23032	PAD - mounting, choke and throttle	1



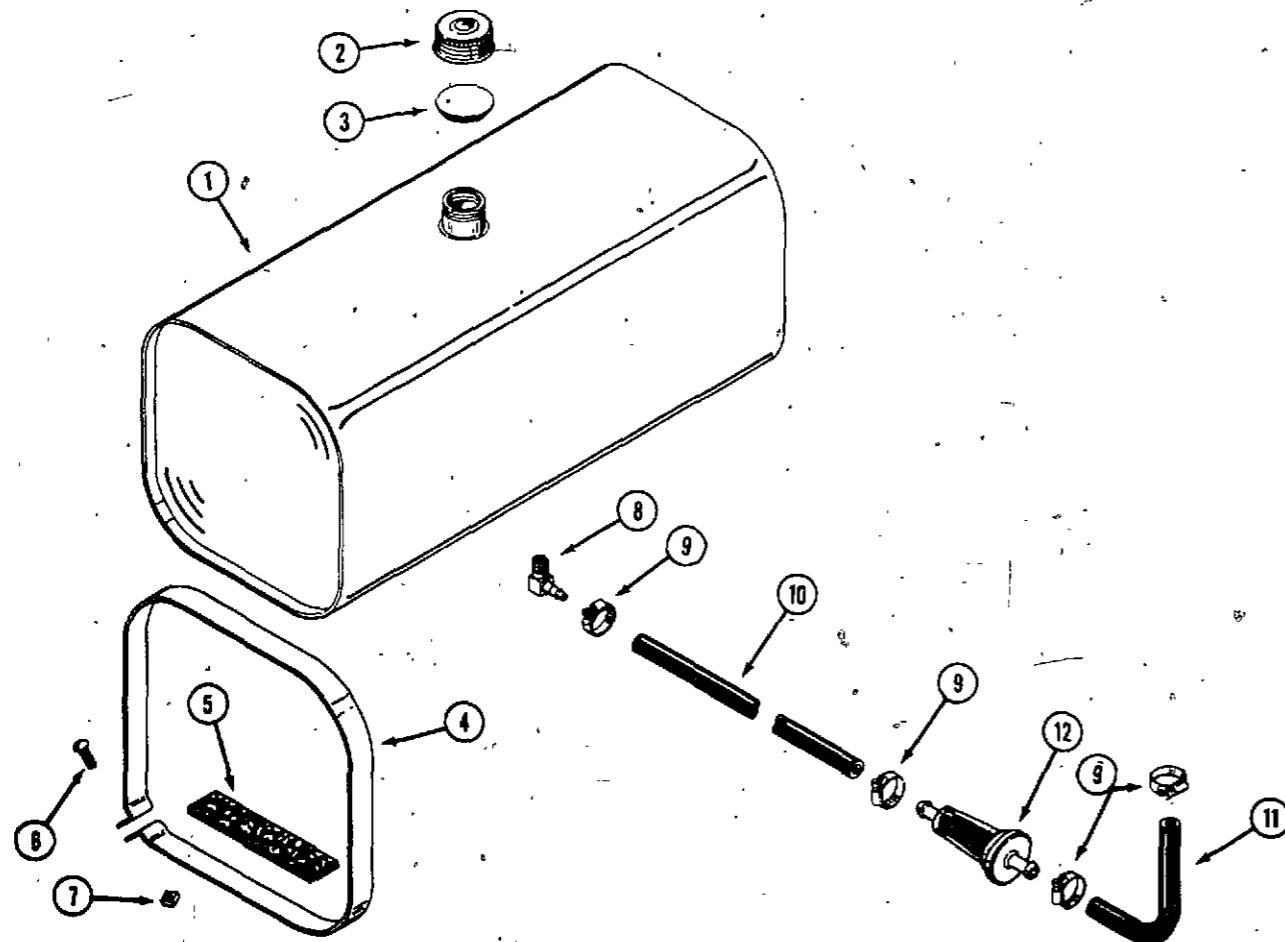
ENGINE MOUNT PLATES - 644 AND 644BH

1	C 20477	PLATE - engine mount R.H.	1
1	C 20476	PLATE - engine mount L.H. (used prior to S/N 9731697)	1
1	C 23951	PLATE - engine mount L.H. (used S/N.9731697 and after)	1
2	C 18793	MOUNT - engine	4
3	D 22988	WASHER - snubber	4
4	151- 210	RIVET - 3/16" x 7/16"	16
5	113- 207	BOLT - 3/8" x 1" hex	4
6	192- 21	LOCKWASHER - 3/8"	8
7	113- 233	BOLT - 3/8" x 1-3/4" hex	4
8	129- 103	NUT - 3/8" - 16 hex	4



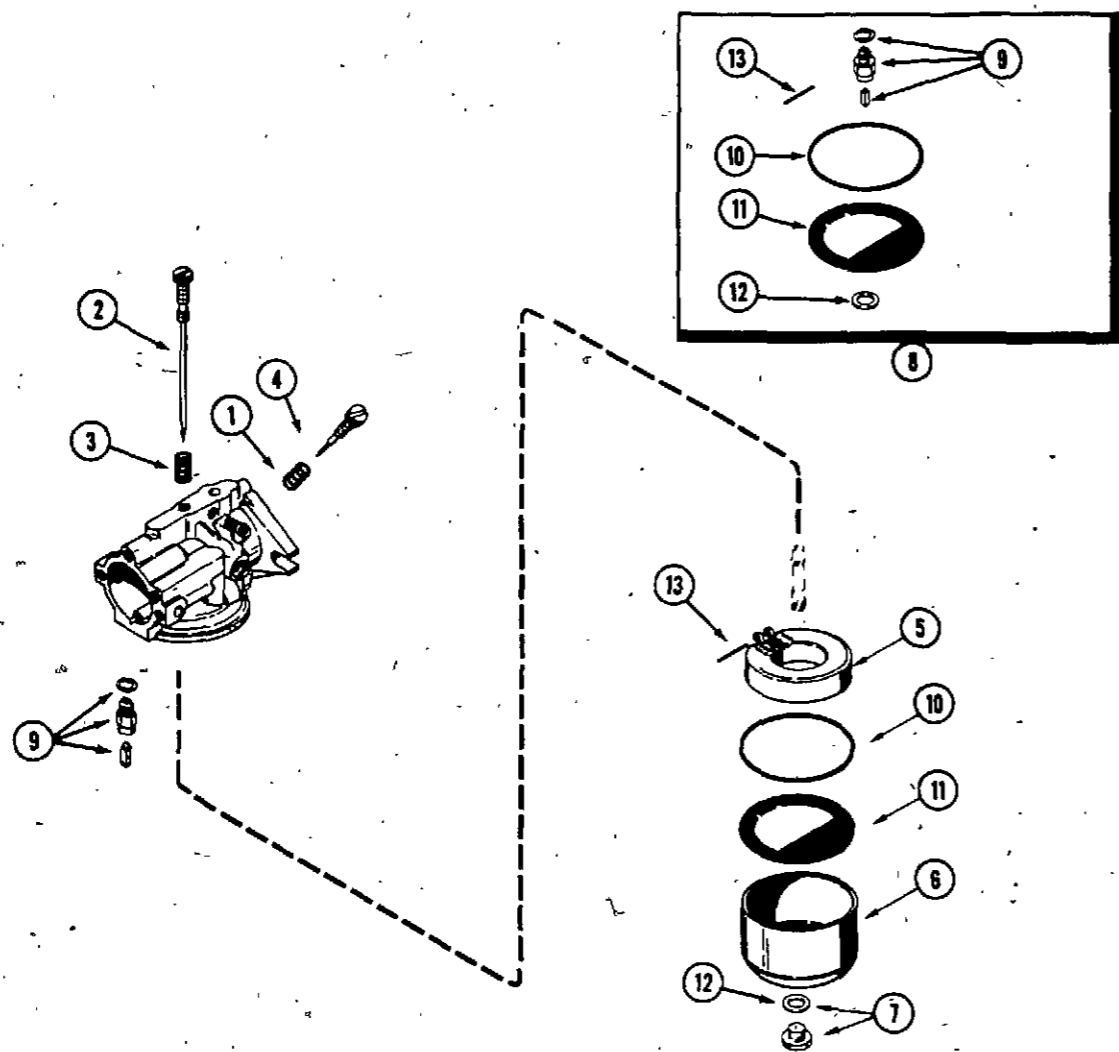
AIR CLEANER - 644 AND 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	KO 237895	AIR CLEANER ASSEMBLY	1
2	KO 237423	GASKET - cover	1
3	NSS	BASE - air cleaner (order KO 237895)	1
4	NSS	COVER - air cleaner (order KO 237895)	1
5	A 70090	ELEMENT - air cleaner	1
6	KO 275341	GASKET - air horn	1
7	177- 94	SCREW - #10 x 5/16" NF fillister head	1
8	193- 6	WASHER - 3/16"	3
9	KO 237421	PRE-CLEANER (optional)	3
10	129- 409	NUT - wing	1



FUEL SYSTEM - 646 AND 646BH

1	C 18133	TANK - fuel	1
2	C 11529	CAP - fuel tank	1
3	C 11545	INSERT - fuel cap	1
4	C 18190	STRAP - tank mtg.	2
5	C 14690	CUSHION - fuel tank	2
6	173- 215	SCREW - 1/4 x 1-1/2" round hd. machine	4
7	129- 504	NUT - 1/4" NC square	2
8	C 10678	ELBOW - fuel tank	2
9	214- 251	CLAMP - hose	1
10	C 19238	HOSE - fuel line 46"	4
11	C 15007	HOSE - fuel line 5-1/4"	1
12	D 59949	FILTER - fuel	1

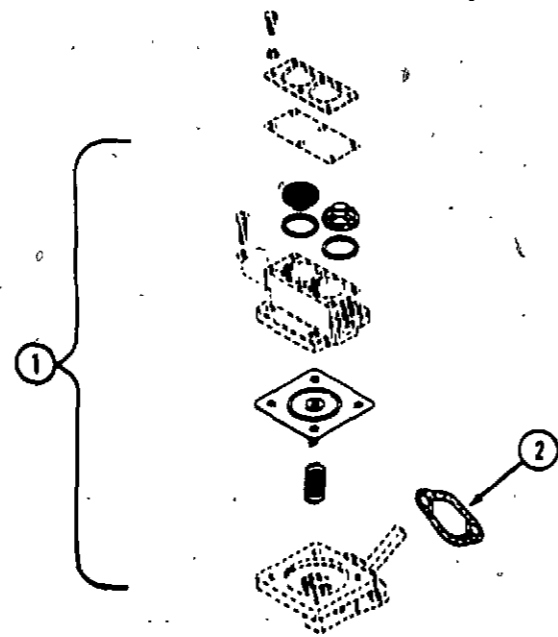


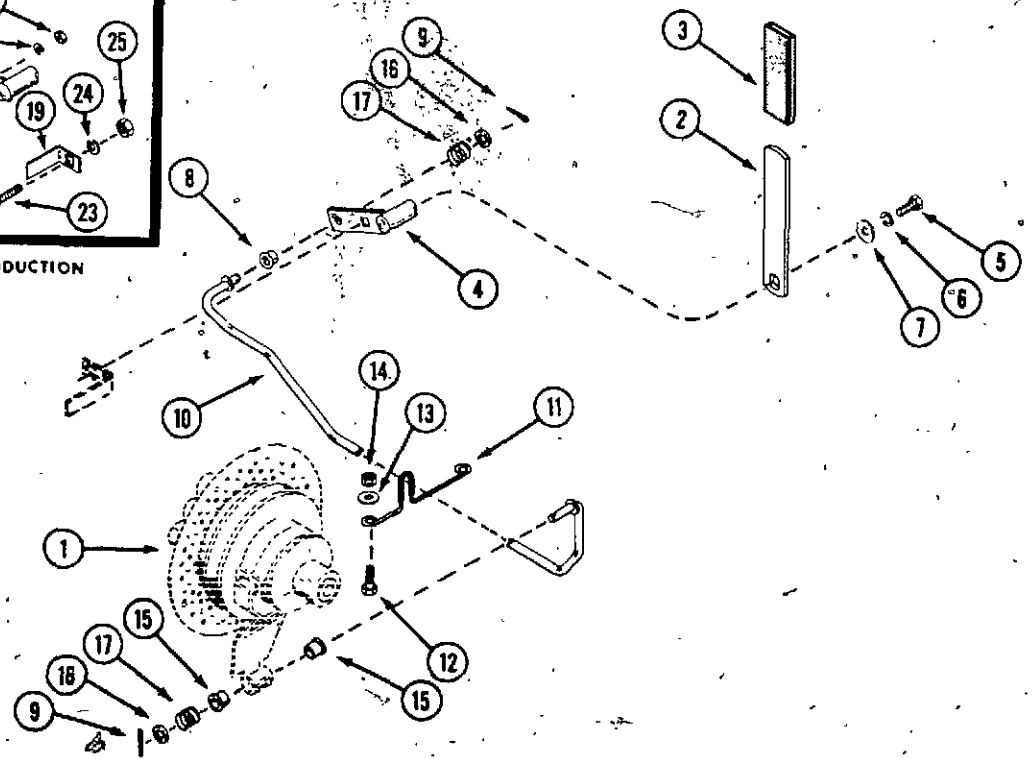
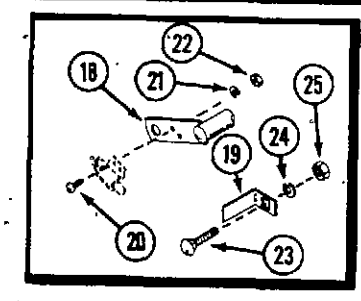
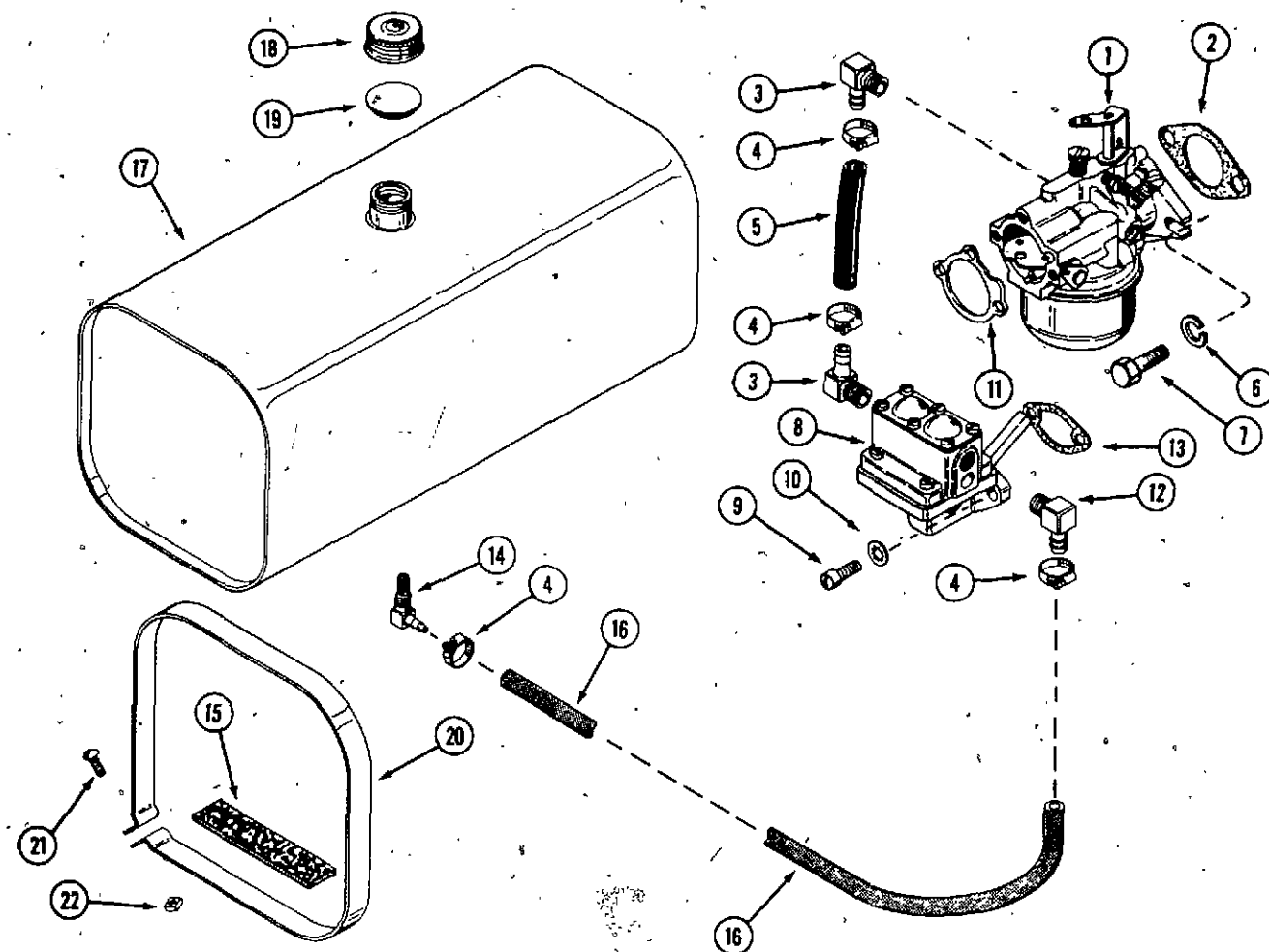
CARBURETOR - 644 AND 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
	C 24408	CARBURETOR ASSEMBLY	1
1	KO 200380	SPRING - tension, idle adjust	1
2	KO 237489	NEEDLE - Hi Speed adjust (used engine S/N 3020407 to S/N 5125238)	1
2	KO 275373	NEEDLE - high speed adjust (used prior to engine S/N 3020406)	1
2	C 24652	NEEDLE - high speed adjust (used engine S/N 5125238 and after)	1
3	KO 200383	SPRING - fuel adjust	1
4	KO 275231	NEEDLE - idle adjust	1
5	KO 200408	FLOAT - carburetor	1
6	KO 235448	BOWL - carburetor	1
7	KO 235447	NUT AND GASKET ASSEM. - carburetor bowl	1
8	A 72013	KIT - carburetor repair	1
9	NSS	INLET NEEDLE AND SEAT ASSEMBLY	1
10	NSS	GASKET - bowl ring	1
11	NSS	GASKET - bowl baffle	1
12	KO 200372	GASKET - bowl screw	1
13	F 19892	PIN - float hinge	1

FUEL PUMP - 644 AND 644BH
(Not available for Plastic Fuel Pump)

1	KO 236387	KIT - fuel pump (for C22987)	1
	NSS	VALVE ASSEMBLY	2
	NSS	GASKET - valve	2
	NSS	DIAPHRAGM ASSEMBLY	1
	NSS	SPRING - diaphragm	1
	NSS	GASKET - valve	1
2	C 22738	GASKET - fuel pump mtg.	1





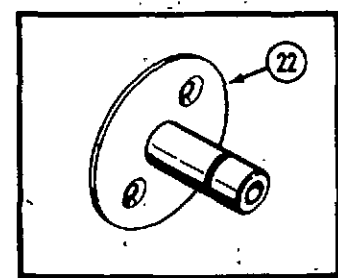
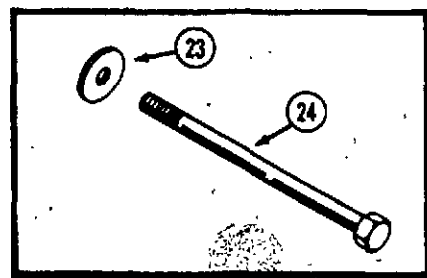
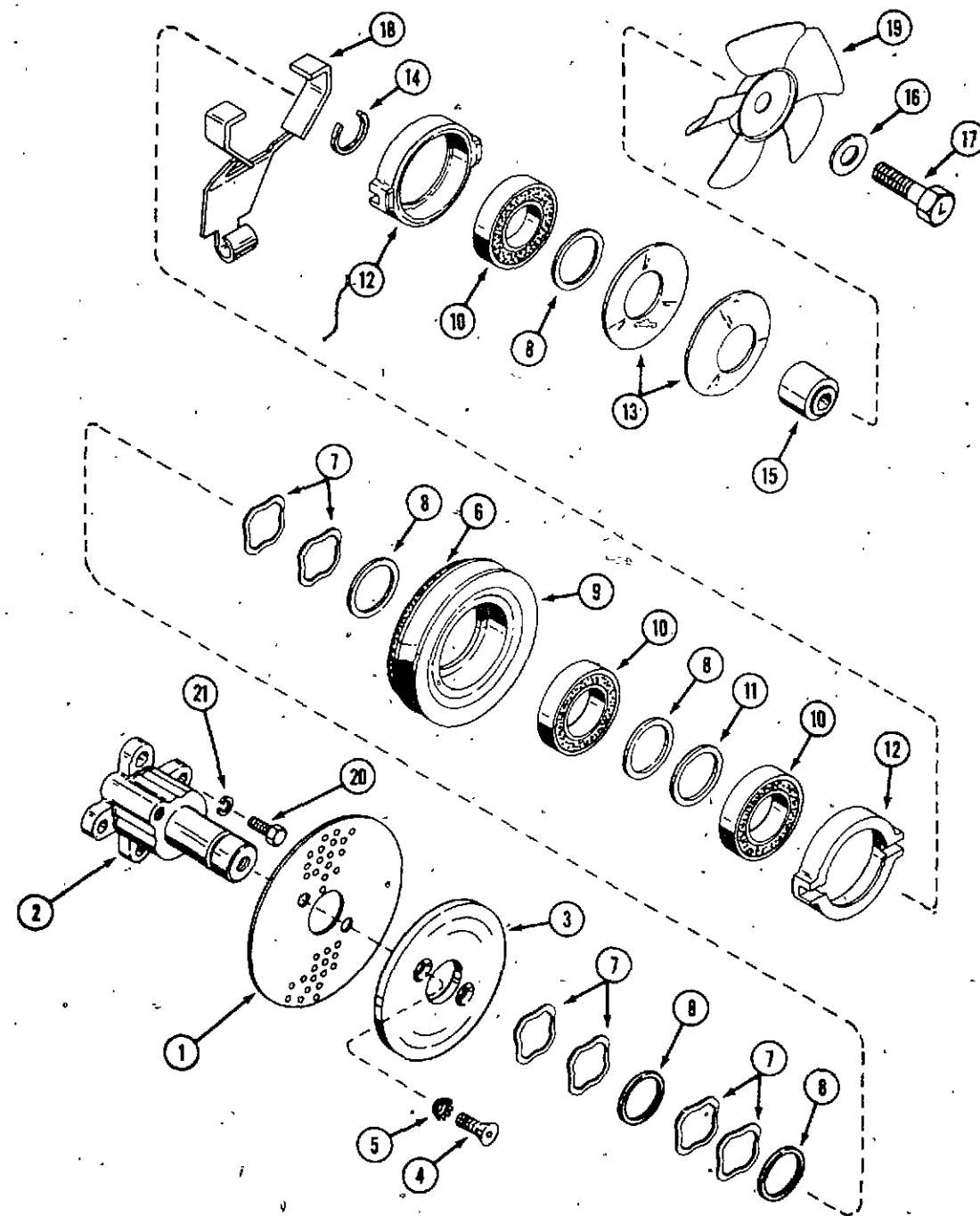
FUEL SYSTEM - 644 AND 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 24408	CARBURETOR - (Repairs page 41)	1
2	C 23860	GASKET - carburetor flange	1
3	C 10678	ELBOW - fuel pump and carburetor	1
4	214- 251	CLAMP - hose	4
5	V 34404	HOSE - carburetor 5-1/4"	4
6	192- 20	LOCKWASHER 5/16"	1
7	113- 103	BOLT - 5/16" x 1" NC hex	2
8	C 24851	PUMP - fuel, 644 (Repairs page 41)	2
9	71- 412	SCREW - 1/4" x 3/4" NC fillister head	1
10	193- 28	LOCKWASHER - 1/4"	2
11	KO 275341	GASKET - air horn	2
13	C 24887	GASKET - fuel pump mounting, all models	1
14	C 10657	ELBOW ASSEMBLY - fuel tank	1
15	C 14690	CUSHION - fuel tank	1
16	C 18275	HOSE - fuel line (44")	2
17	C 18133	TANK - fuel	1
18	C 11529	CAP - fuel tank (includes insert)	1
19	C 11545	INSERT - fuel cap	1
20	C 18190	STRAP - fuel tank mounting	1
21	173- 215	SCREW - 1/4 x 1-1/2" NC round head, machine, zinc plated	2
22	129- 504	NUT - square 1/4" NC	2

PTO CLUTCH AND LINKAGE

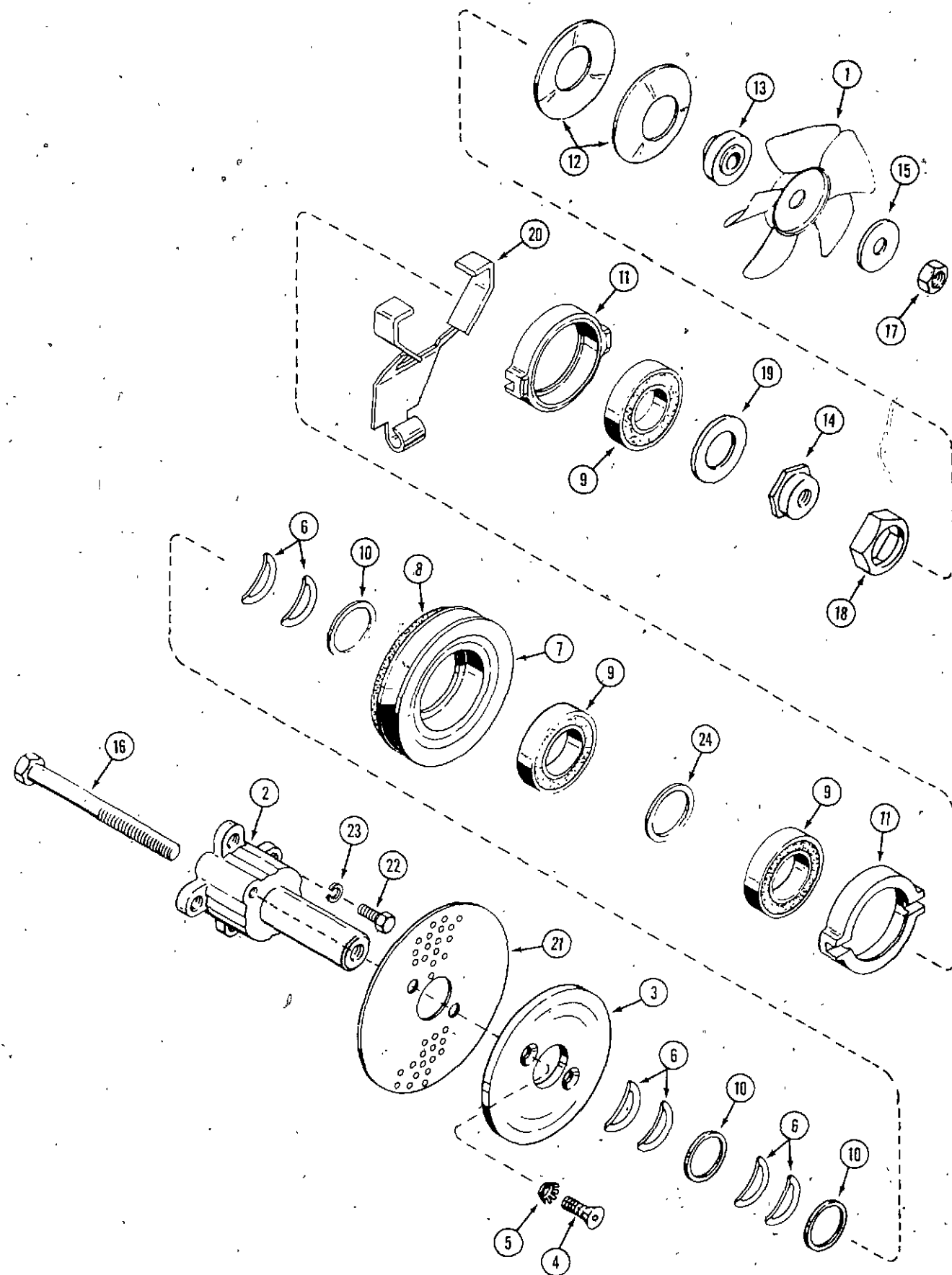
1	C 19803	CLUTCH ASSEMBLY - less screen, 644 and 644BH (Repairs page 45)	1
1	C 21635	CLUTCH ASSEMBLY - 646 and 646 BH (Repairs page 45)	1
2	C 17679	HANDLE - clutch engaging	1
3	C 14728	GRIP - clutch handle	1
4	C 21615	ARM - clutch pivot (early production)	1
5	113- 102	BOLT - 5/16" x 3/4" NC hex	1
6	192- 20	LOCKWASHER - 5/16"	1
7	195- 521	WASHER - 5/16"	1
8	C 20093	BUSHING - fliplock	1
9	132- 310	PIN - cotter 1/8" x 1"	1
10	C 21590	ROD - clutch (644 and 644BH)	2
10	C 19862	ROD - clutch (646 and 646BH)	1
11	C 19767	GUIDE - clutch rod	1
12	113- 207	BOLT - 3/8" x 1" NC hex	1
13	195- 525	WASHER - 3/8"	2
14	131- 1181	NUT - lock 3/8" NC hex	2
15	C 20053	BUSHING - nylon	2
16	C 14906	WASHER - 3/8" nylon	2
17	C 19867	SPRING - clutch rod	2
18	C 23743	ARM - clutch pivot	2
19	C 23440	ACTIVATOR - switch	1
20	182- 528	SCREW - #10 - 32 x 1 1/2"	1
21	192- 18	LOCKWASHER - #10	2
22	129- 37	NUT - #10 - 32	2
23	111- 340	BOLT - 3/8" x 3/4" rd. head sq. neck	2
24	192- 21	LOCKWASHER - 3/8"	1
25	129- 103	NUT - 3/8"	1

CLUTCH ASSEMBLY (PTO) 646
(644 PRIOR TO S/N 9744750)

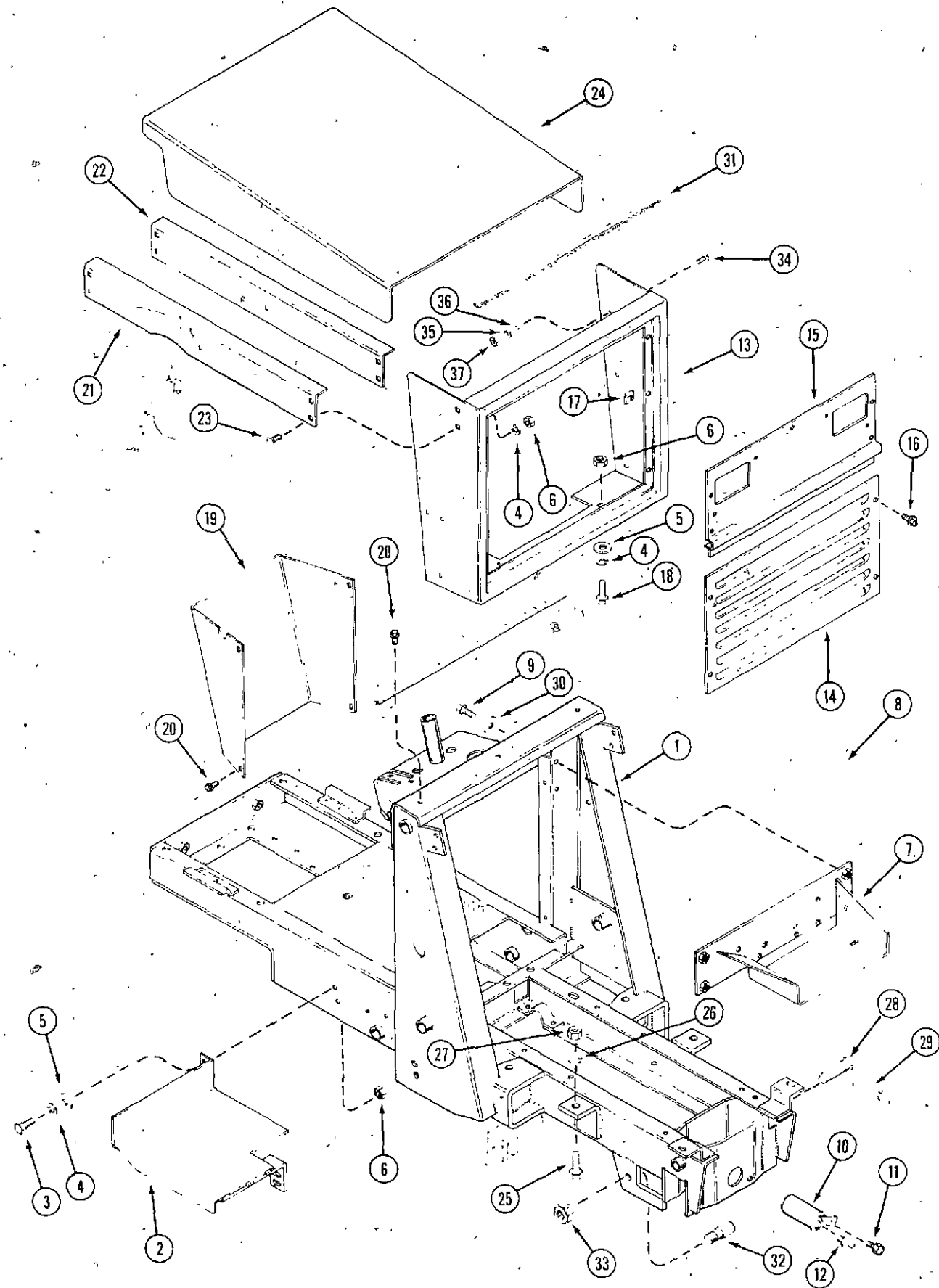


REF	PART NO.	DESCRIPTION	REQ'D
	NSS	CLUTCH ASSEMBLY - less screen (644 and 644BH) (use C24744)	1
	C 21635	CLUTCH ASSEMBLY - (646 and 646BH)	1
1	C 15721	SCREEN - grass (644 and 644BH)	1
2	C 18907	HUB - clutch (644 and 644BH)	1
3	C 15718	PLATE - clutch (644 and 644BH)	1
4	164- 40	SCREW - 5/16" x 3/4" NC flat head socket (644 and 644BH)	2
4	164- 50	SCREW - 3/8" x 3/4" NC flat head socket (646 and 646BH)	2
5	193- 76	LOCKWASHER - 5/16" counter sunk ext. tooth (644 and 644BH)	2
5	193- 56	LOCKWASHER - 3/8" counter sunk, ext. tooth (646 and 646BH)	2
6	C 23740	KIT - disc, friction	1
7	C 15515	WASHER - spring	6
8	C 15557	WASHER - spacer .050	UAR
9	C 22671	PULLEY ASSEMBLY - clutch (includes disc)	1
10	C 23245	BEARING - cam and pulley	3
11	C 21596	WASHER - shim .005"	UAR
11	C 15556	WASHER - spacer .010	UAR
12	NSS	CAM - clutch 644 and 644BH (service with (2) C 23033 cams and (1) C 23391 arm) Prior to S/N 9718432	2
12	NSS	CAM - clutch 646 and 646BH (service with (2) C 23033 cams and (1) C 23392 arm) prior to S/N 9718950	2
12	C 23033	CAM - clutch 646 and 646BH (used S/N 9718950 and after)	2
12	C 23033	CAM - clutch 644 and 644BH (used S/N 9718432 and after)	2
13	C 16786	SPRING - clutch	2
14	F 59014	RING - retaining	1
15	C 18908	SPACER - hub (644 and 644BH)	1
16	O 2815N	WASHER - 17/32" (644 and 644BH)	1
17	C 18940	BOLT - 1/2" x 1-3/4" NC hex., L.H. thread (644 and 644BH)	1
18	C 23391	ARM - engaging (644 and 644BH)	1
18	C 23392	ARM - engaging (646 and 646BH)	1
19	C 16616	FAN - cooling (644 and 644BH)	1
20	113- 207	BOLT - 3/8" x 1" NC hex (644 and 644BH)	4
21	192- 21	LOCKWASHER - 3/8" (644 and 644BH)	4
22	C 19196	PLATE - clutch (646 and 646BH)	1
23	C 18263	WASHER - spacer (646 and 646BH)	2
24	C 18291	BOLT - 7/16" x 7-1/4" NC hex (646 and 646BH)	1

**CLUTCH ASSEMBLY (PTO) 644
(USED S/N 9744750 AND AFTER)**



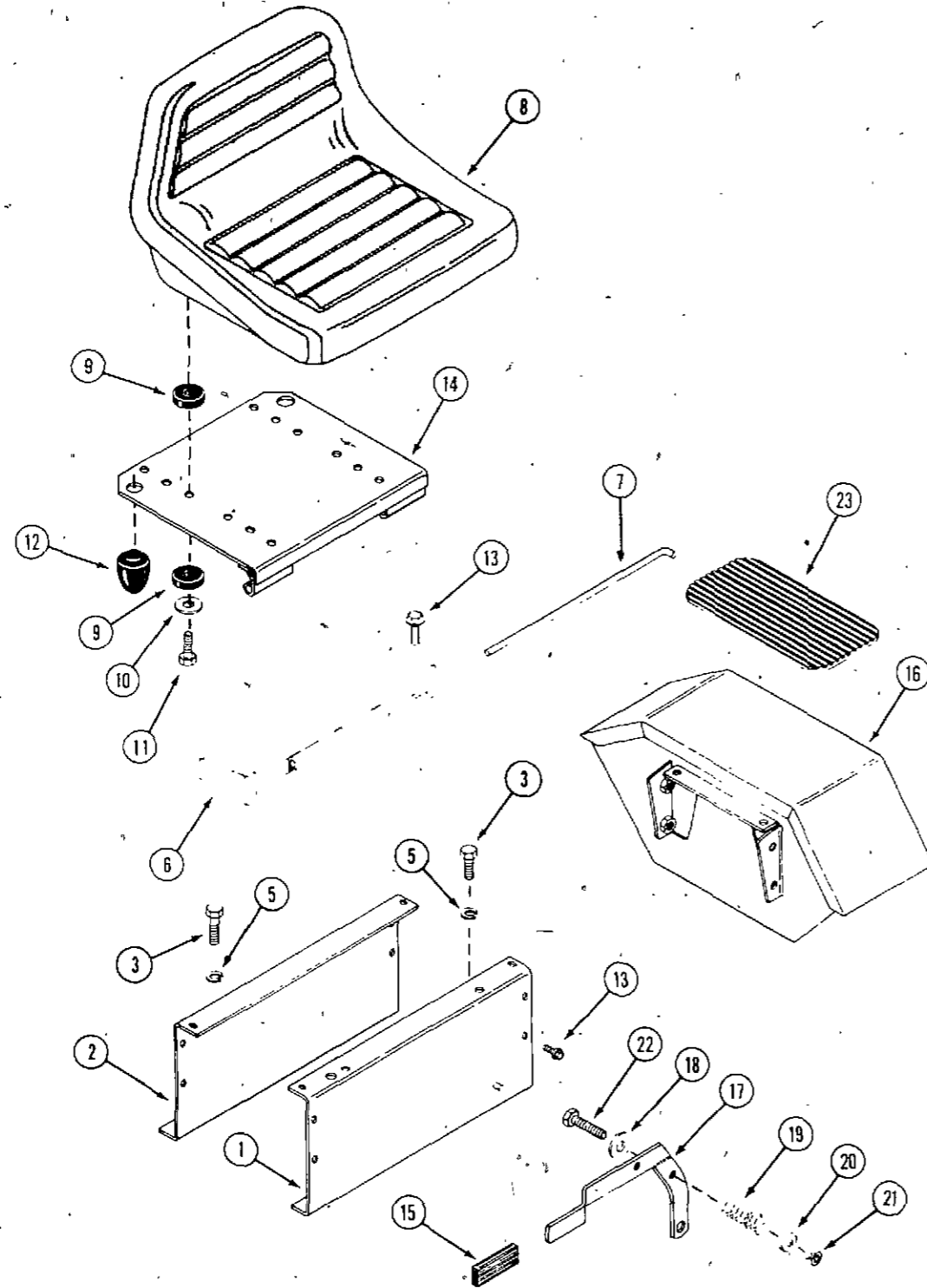
REF.	PART NO.	DESCRIPTION	REQ'D
	C 24774	CLUTCH AND FAN ASSEMBLY	1
1	C 16616	FAN - cooling	1
2	C 23677	HUB - clutch	1
3	C 15718	PLATE - clutch	1
4	164- 40	BOLT - 5/16" - 18 x 3/4"	1
5	193- 76	LOCKWASHER - 5/16" countersunk external tooth	2
6	C 15515	WASHER - spring	2
7	C 22671	PULLEY AND DISC ASSEMBLY	6
8	C 23740	KIT - friction disc	1
9	C 23245	BEARING - ball	1
10	C 15557	WASHER - spacer .050	3
11	C 23033	CAM - clutch	3
12	C 16786	SPRING - clutch load	2
13	C 23630	SPACER - hub	2
14	C 23625	NUT - adjust	1
15	O 2815N	WASHER - fan 17/32"	1
16	C 24743	BOLT - 1/2" - 20 x 5-1/2" NF	1
17	129- 125	NUT - 1/2" - 20 NF	1
18	C 23627	GUIDE - adjusting nut	1
19	C 23624	WASHER - spacer	1
20	C 23391	ARM - engaging	1
21	C 15746	SCREEN - grass	1
22	113- 207	BOLT - 3/8" - 16 x 1" NC	1
23	192- 21	LOCKWASHER - 3/8"	4
24	C 25608	SPACER - .200" (use to replace three .050" spacers on early production)	4



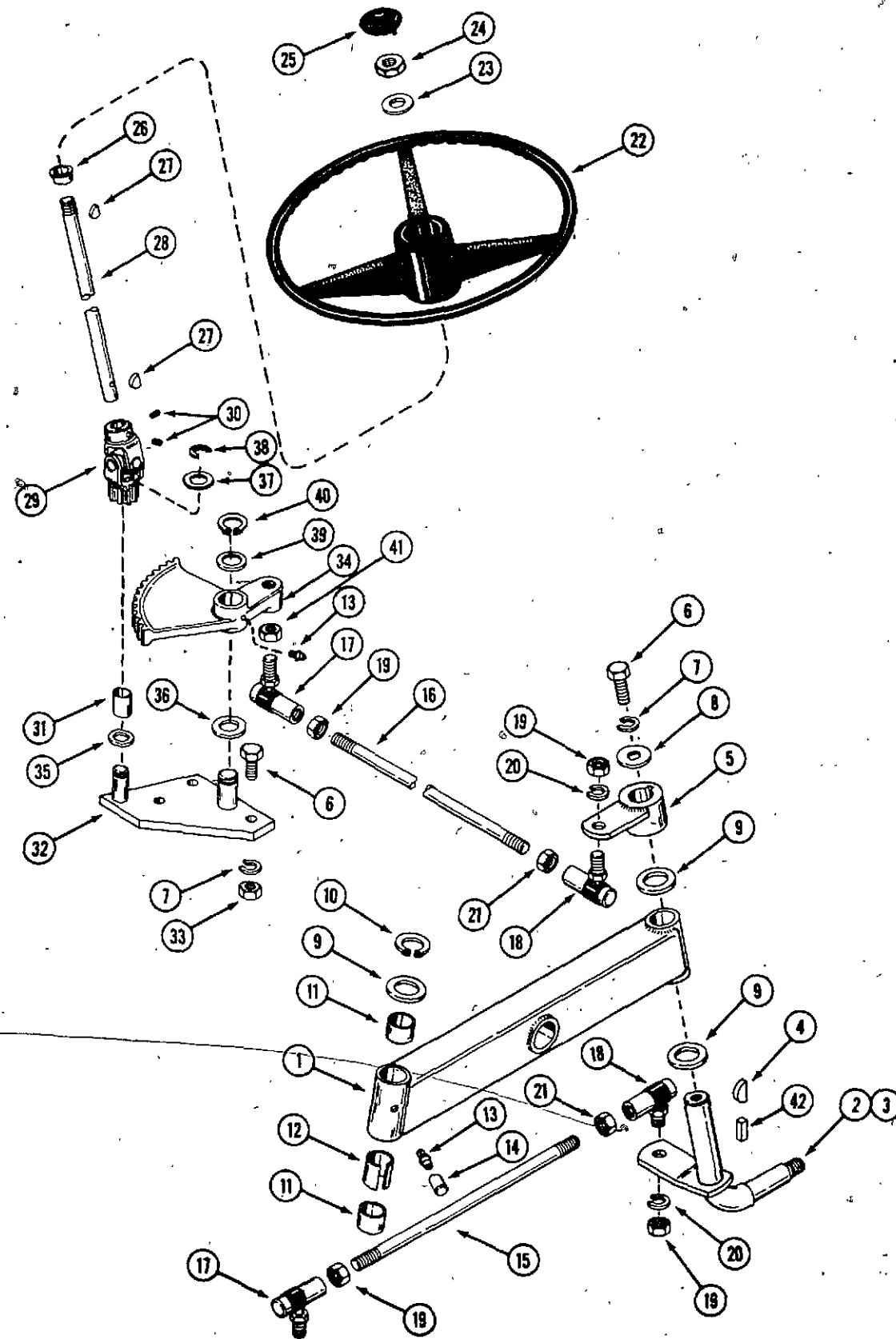
HOOD, FRAME AND GRILLE

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 21664	FRAME - main 644 (also order C23010 switch and C23330 nut prior to S/N 9718951)(used prior to S/N 9771567)	1
1	C 23819	FRAME - main 644BH (also order C23010 switch and C23330 nut prior to S/N 9718951)(used prior to S/N 9771567)	1
1	C 21663	FRAME - main 646 (also order C23010 switch and C23330 nut prior to S/N 9718432)(used prior to S/N 9771784)	1
1	C 23820	FRAME - main 646BH (also order C23010 switch and C23330 nut prior to S/N 9718432)(used prior to S/N 9771784)	1
1	C 25171	FRAME - main 646 (used S/N 9771567 and after)	1
1	C 25172	FRAME - main 644 (used S/N 9771784 and after)	1
1	C 25278	FRAME - main 646BH (used S/N 9771784 and after)	1
2	C 17563	PAD - foot, L.H.	1
2	C 18024	PAD - foot, R.H.	1
3	113- 207	BOLT - 3/8" x 1" NC hex	8
4	192- 21	LOCKWASHER - 3/8"	18
5	195- 104	WASHER - 3/8"	6
6	129- 103	NUT - 3/8" NC hex	12
7	C 17598	TRAY - battery	1
8	C 16239	STRAP - battery hold down	1
9	113- 102	BOLT - 5/16" x 3/4" NC hex	4
10	C 19018	PIN - axle pivot	1
11	187- 1046	BOLT - 3/8" NC hex head	1
12	219- 17	FITTING - lube	1
13	C 21912	GRILLE - frame (644 and 644BH) (used prior to S/N 9731697)	1
13	C 21533	GRILLE - frame (646 and 646BH) (also 644 and 644BH S/N 9731697 and after)	1
14	C 18201	GRILLE - insert (644 and 644BH)	1
14	C 19375	GRILLE - insert (646 and 646BH)	1
15	C 21545	PANEL - headlight	1
16	187- 1080	BOLT - 1/4" x 1/2" NC hex slotted, black	9
17	C 17653	NUT - 1/4" tinnerman	9
18	113- 206	BOLT - 3/8" x 3/4" NC hex	2
19	C 17647	PANEL - dash	1
20	187- 1036	BOLT - 1/4" x 1/2" NC hex self tapping	7
21	C 21667	SUPPORT - grille, R.H. (644 and 644BH)	1
22	C 19863	SUPPORT - grille, L.H. (644 and 644BH)	1
22	C 19863	SUPPORT - grille, (646 and 646BH)	2
23	111- 340	BOLT - 3/8" x 3/4" NC round head, square neck	8
24	C 21538	HOOD	1
25	113- 412	BOLT - 1/2" x 1-3/4" NC hex (engine mounting) 646 and 646BH	3
25	113- 410	BOLT - 1/2" x 1-1/2" NC hex (left front engine mounting) 646 and 646BH	1
26	192- 23	LOCKWASHER - 1/2"	3
27	129- 105	NUT - 1/2" NC hex	3
27	131- 165	NUT - lock 1/2" NC hex jam (left front engine mount) 646 and 646BH	1
28	C 18055	PIN - latch	2
29	C 10898	PIN - safety	2
30	195- 521	WASHER - 5/16"	4
31	C 21638	STRIP - seal	1
32	C 18733	PIN - attachment	2
33	131- 1318	NUT - lock 1/2" NF jam	2
34	182- 528	SCREW - #10 x 1/2" pan head	3
35	192- 18	LOCKWASHER - #10	3
36	195- 513	WASHER - #10	3
37	129- 37	NUT - #10	3

SEAT, FENDERS AND TOOL TRAY

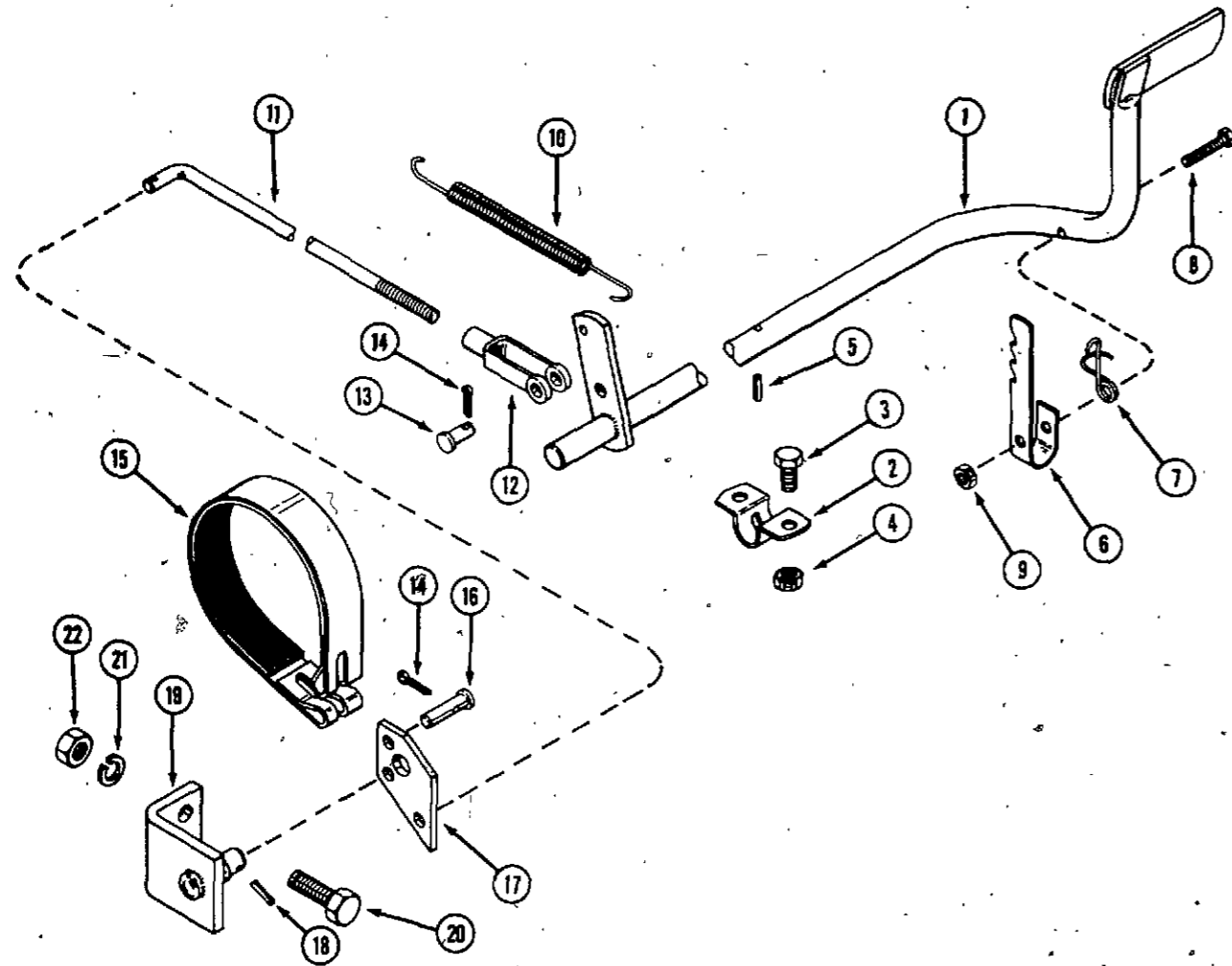


REF.	PART NO.	DESCRIPTION	REQ'D
1	C 17488	SUPPORT - seat, front	1
2	C 17485	SUPPORT - seat, rear	1
3	113- 424	BOLT - 1/2" x 1" NC hex	1
5	192- 23	LOCKWASHER - 1/2"	4
6	C 19417	TRAY - tool	4
7	C 16429	PIN - seat hinge	1
8	C 18217	SEAT	1
9	C 15410	CUSHION - rubber	1
10	195- 2021	WASHER - 5/16" x 1-1/4" O.D.	8
11	113- 122	BOLT - 5/16" x 1-1/2" NC hex	4
12	C 14534	BUMPER - seat	4
13	121- 106	BOLT - 5/16" x 1/2" NC hex flange	2
14	C 17152	HINGE - seat	14
15	C 14728	GRIP - shift lever	1
16	C 17456	FENDER - L.H. (644 and 646)	1
16	C 17457	FENDER - R.H. (644 and 646)	1
16	C 22850	FENDER - L.H. (644BH and 646BH)	1
16	C 22849	FENDER - R.H. (644BH and 646BH)	1
17	C 17491	LEVER - shift	1
18	195- 2029	WASHER - 7/16" x 1-1/4"	1
19	C 17216	SPRING - shift lever	1
20	C 17066	WASHER - cupped	1
21	131- 1181	NUT - lock 3/8" NC hex	1
22	113- 257	BOLT - 3/8" x 2-1/2" NC hex	1
23	C 21838	PAD - step, fender (644BH and 646BH)	2



FRONT AXLE AND STEERING GEAR

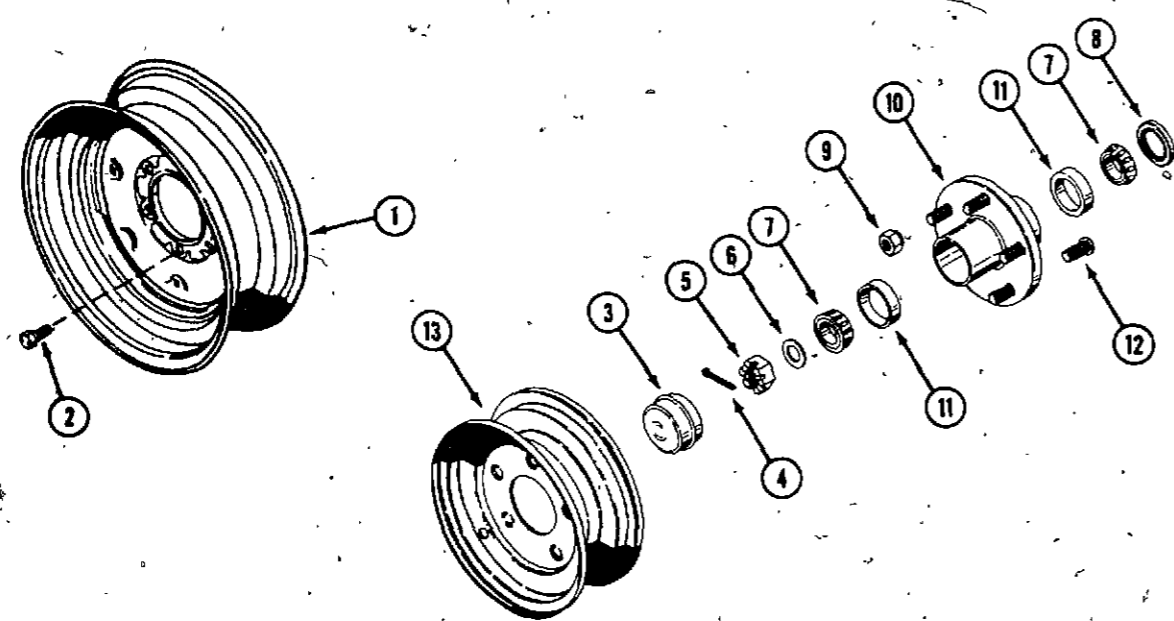
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 17296	AXLE - front	1
2	C 22249	SPINDLE - L.H. (also requires item 42)	1
3	C 17398	SPINDLE - R.H.	1
4	126- 32	KEY - 1/4" x 1-1/4" woodruff (644 used prior to S/N 94731682) (646 used prior to S/N 9732122)	1
5	C 17407	ARM - upper spindle	1
6	113- 417	BOLT - 1/2" x 1-3/4" NC hex.	4
7	192- 23	LOCKWASHER - 1/2"	4
8	195- 536	WASHER - 9/16"	1
9	C 17684	WASHER - thrust	4
10	A 59939	RING - retaining	1
11	C 12888	BUSHING - spindle	4
12	C 18248	SPACER - bearing	2
13	219- 17	FITTING - lube	4
14	C 13106	COVER - lube fitting	4
15	C 17401	TIE ROD	1
16	C 17402	ROD - drag link	1
17	C 17404	BALL JOINT - R.H. thread	2
18	C 11501	BALL JOINT - L.H. thread	2
19	129- 127	NUT - 5/8" NF hex	5
20	192- 25	LOCKWASHER - 5/8"	4
21	129- 327	NUT - 5/8" NF hex L.H. thread	2
22	C 18014	WHEEL - steering	1
23	C 12975	WASHER - 5/8"	1
24	131- 1113	NUT - lock 5/8" NC hex	1
25	C 16945	CAP - steering wheel	1
26	C 15096	BUSHING - flanged nylon	1
27	126- 16	KEY - woodruff #10	2
28	C 17572	SHAFT - steering	1
29	C 17703	JOINT - universal (includes 219-57 lube fitting)	1
30	178- 860	SETSCREW - 1/4" x 3/8"	2
31	C 17255	BEARING - oilite	1
32	C 17570	PLATE - steering	1
33	129- 105	NUT - 1/2" NC hex	3
34	C 17252	GEAR - steering	1
35	C 24679	BEARING - thrust, universal	1
36	C 17257	BEARING - thrust	1
37	C 17550	WASHER - 3/4" universal	1
38	A 31220	RING - retaining, universal	1
39	195- 2115	WASHER - 1/2"	1
40	A 34428	RING - retaining	1
41	129- 167	NUT - jam 5/8" NC hex.	1
42	T 13449	KEY - 1/4" x 1/4" x 1-3/8" (644 used S/N 9731682 and after) (646 used S/N 9732122 and after)	1



BRAKE ASSEMBLY

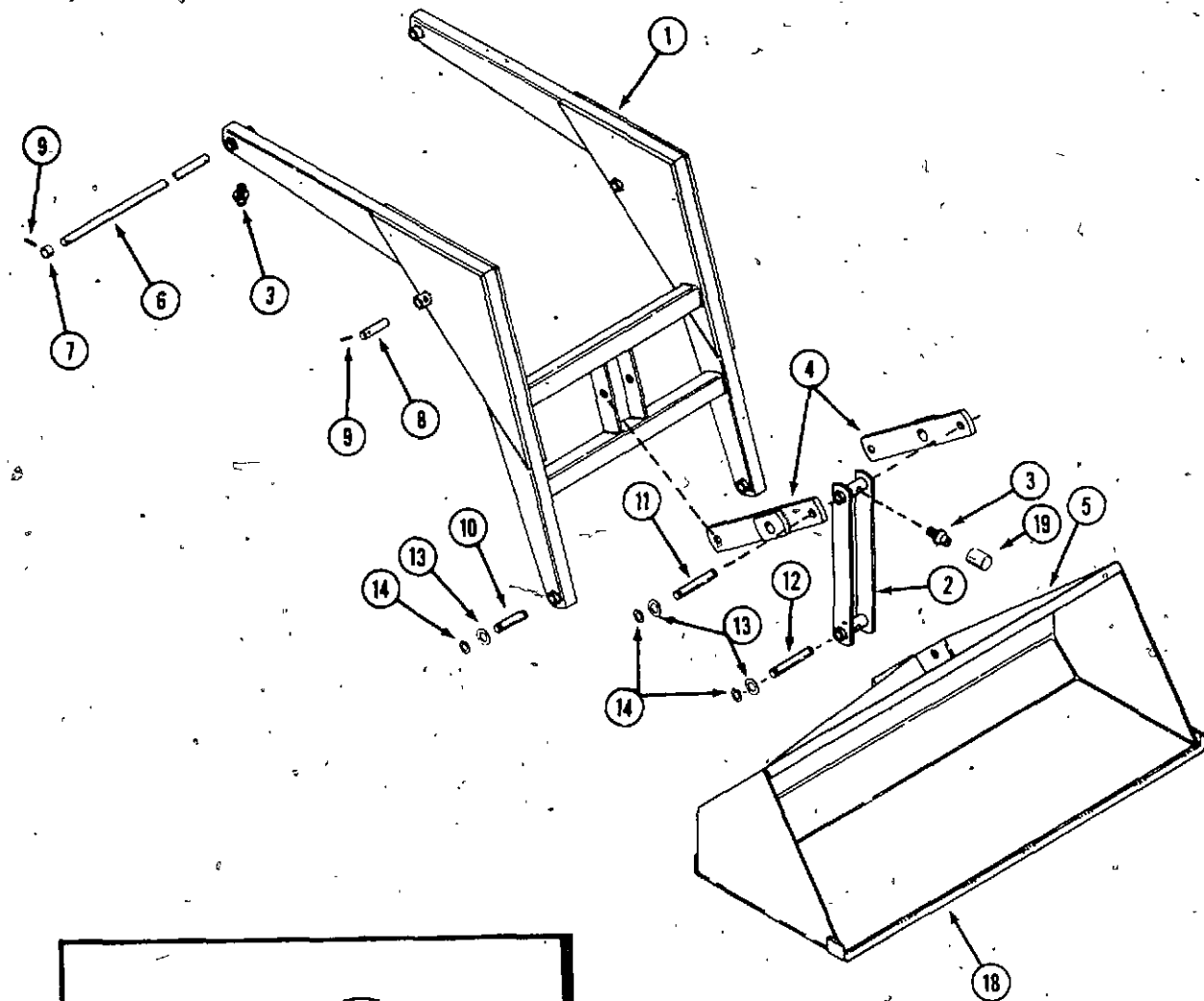
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 18026	PEDAL - brake	1
2	C 18029	BRACKET - saddle	1
3	113- 206	BOLT - 3/8" x 3/4" NC hex	2
4	131- 1181	NUT - lock 3/8" NC hex	4
5	138- 92	PIN - roll 3/16" x 3/4"	4
6	C 18105	LOCK - brake	1
7	C 17541	SPRING - brake lock	1
8	113- 5	BOLT - 1/4" x 1-1/2" NC hex	1
9	131- 1102	NUT - lock 1/4" NC hex	1
10	C 18278	SPRING - brake return	1
11	C 14946	ROD - brake (644 - used prior to S/N 9757923) (646 - used prior to S/N 9758272)	1
11	C 25041	ROD - brake (644 - used S/N 9757923 and after) (646 - used S/N 9758272 and after)	1
12	213- 4	CLEVIS	1
13	141- 4	PIN - clevis	1
14	132- 310	PIN - cotter 1/8" x 1"	1
15	C 14187	BAND - brake	3
16	C 13526	PIN - clevis	1
17	C 18305	ARM - actuator	2
18	138- 77	PIN - roll 5/32" x 1"	1
19	C 18306	BRACKET - pivot	1
20	113- 412	BOLT - 1/2" x 1-3/4" NC hex (644 and 646)	1
20	113- 426	BOLT - 1/2" x 2 - 3/4" N.C. hex (644BH and 646BH)	2
21	192- 23	LOCKWASHER - 1/2"	2
22	129- 105	NUT - 1/2" NC hex	2

FRONT AND REAR WHEELS

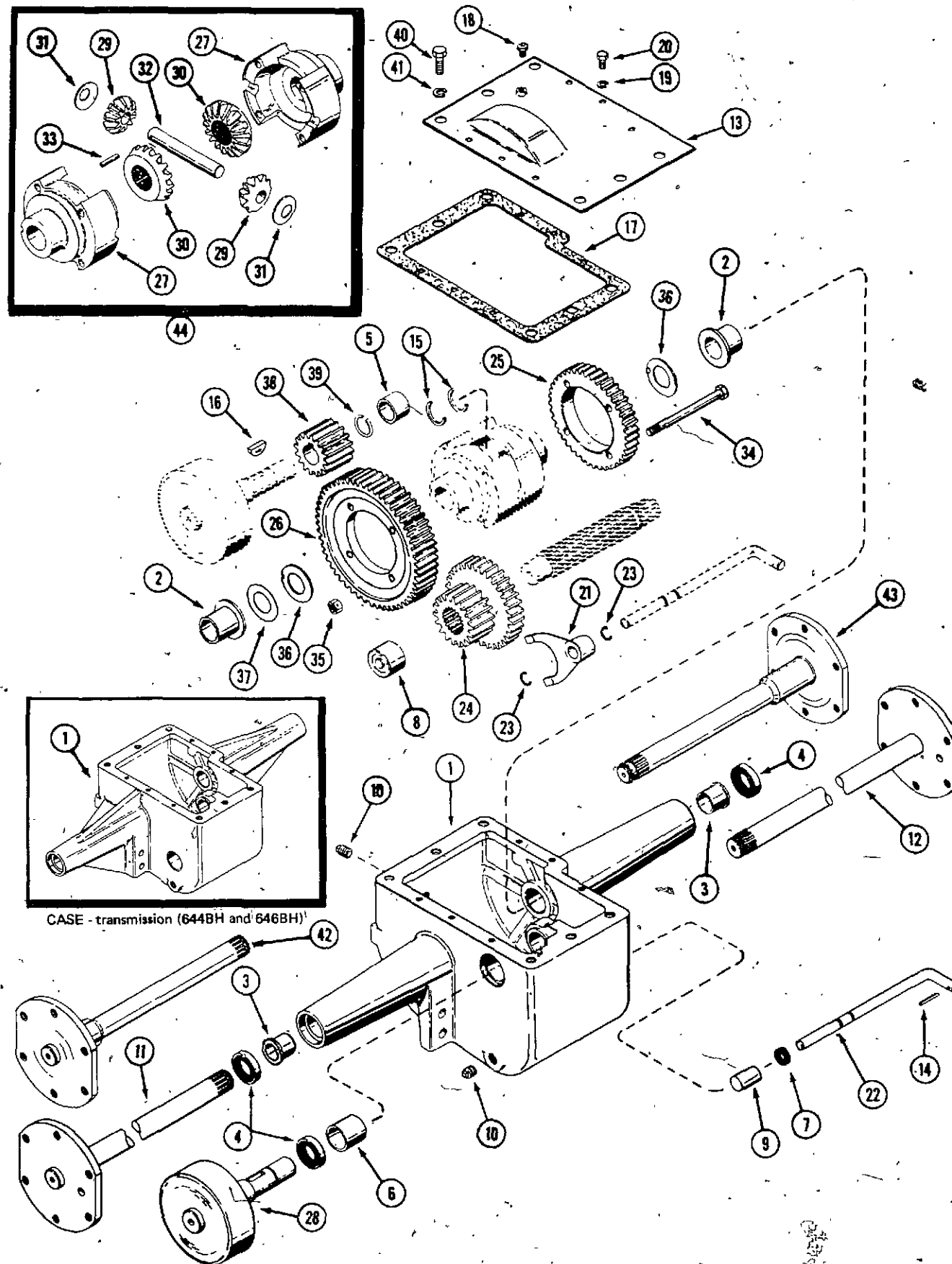


1	C 22307	WHEEL - rim, rear (644BH and 646BH) (used in LL-120 Hi-Flotation kit)	2
1	C 10316	WHEEL - rim, rear (644 and 646)	2
2	A 30064	BOLT - rear wheel lug	2
3	T 27814	CAP - dust	12
4	132- 49	PIN - cotter 1/8" x 1-1/8"	2
5	25- 1312	NUT - castle 3/4" NC hex	2
6	C 10822	WASHER - retaining	2
7	D 29266	BEARING - cone	2
8	T 27809	SEAL - bearing	4
9	N 4221	NUT - wheel	2
10	C 19193	HUB ASSEMBLY - front wheel	10
11	D 29267	RACE - bearing	2
12	C 18300	STUD - wheel	4
	NSS	HUB - wheel	10
13	C 13168	WHEEL - rim, front	2

BUCKET AND ARM ASSEMBLY



REF.	PART NO.	DESCRIPTION	REQ'D
1	C 17311	ARM ASSEMBLY - bucket lift	1
2	C 17322	ARM - bucket	1
3	219- 20	FITTING - lube	4
4	C 18249	LINK - bucket cylinder	2
5	C 17328	BUCKET ASSEMBLY - loader	1
6	C 17337	ROD - arm assembly mounting	1
7	C 17987	COLLAR	2
8	C 21963	PIN - cylinder mounting	3
9	138- 2005	PIN - spiral 1/4" x 1"	5
10	C 17334	PIN - bucket mounting, 3-5/16" L	2
11	C 17335	PIN - 4-15/16"	2
12	C 17336	PIN - 4-3/4"	1
13	195- 545	WASHER - 13/32"	10
14	A 33531	RING - retaining	10
15	C 18145	BUSHING - oilite	2
16	195- 533	WASHER - 1-1/16"	2
17	132- 311	PIN - cotter 5/32" x 1-1/4"	2
18	C 12824	EDGE - cutting	1
19	C 13106	COVER - lube fitting	4



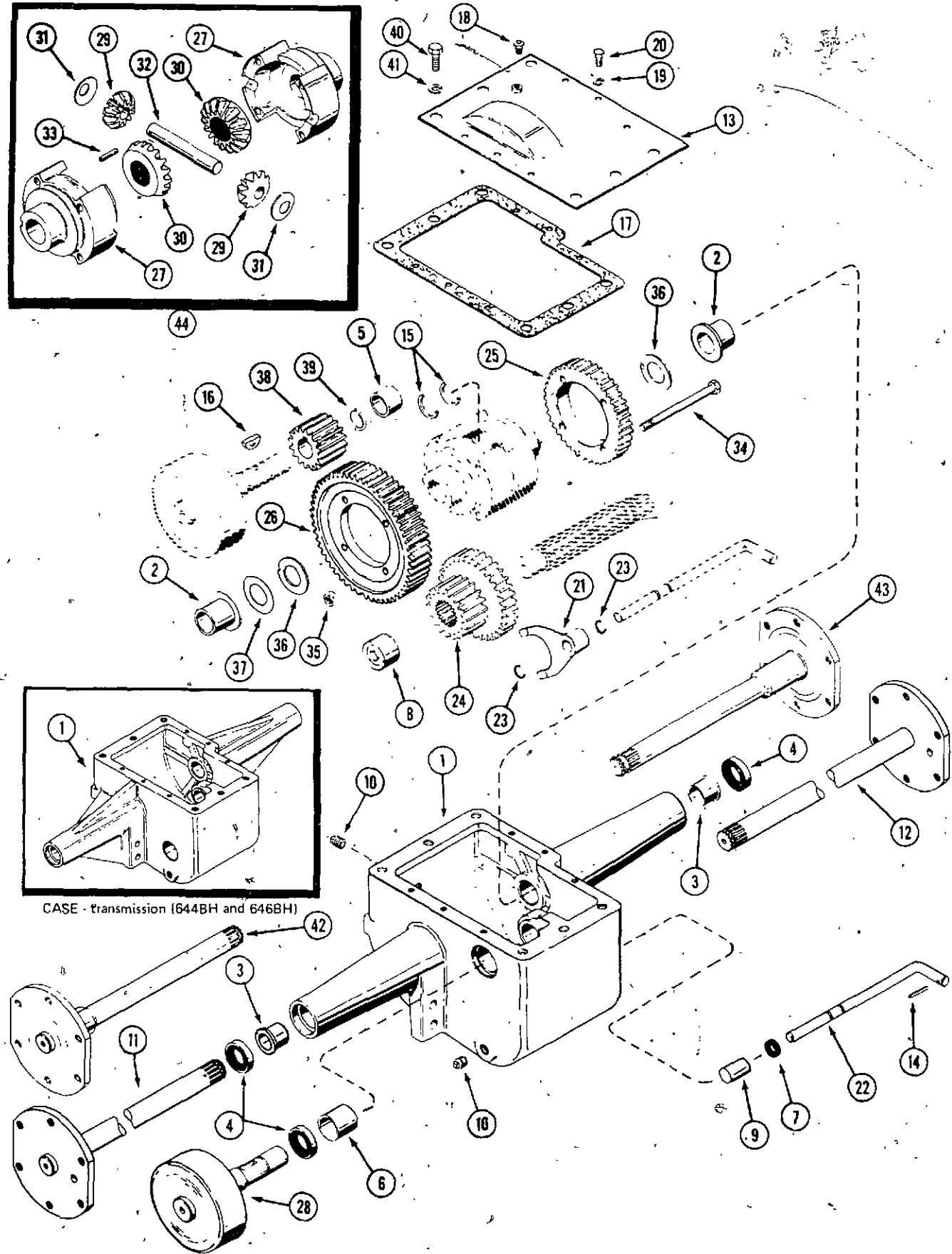
TRANSMISSION AND FINAL DRIVE

(644, 644BH - USED PRIOR TO S/N.9757922)
 (646 - USED PRIOR TO S/N 9758258)
 (646BH - USED PRIOR TO 9758386)

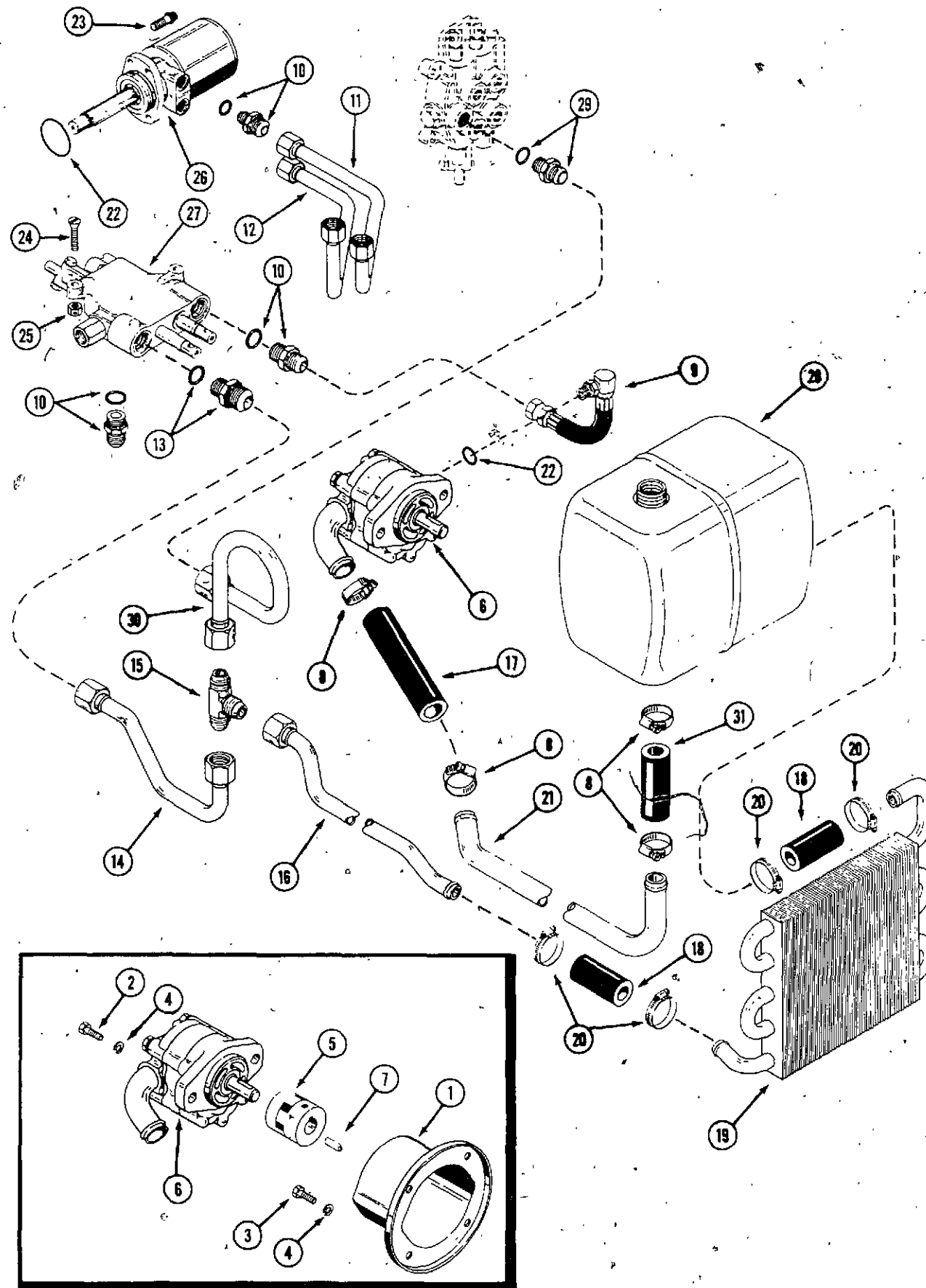
REF.	PART NO	DESCRIPTION	REQ'D
1	NSS	CASE - transmission (644BH and 646BH) (order C24846 and C24802)	1
1	NSS	CASE - transmission (644 and 646) (order C24843 and C24802)	1
2	C 12713	BEARING - flanged	2
3	C 16744	BEARING - flanged	2
4	D 31945	SEAL - axle	3
5	C 13241	BEARING - sleeve	1
6	C 13385	BEARING - sleeve	1
7	C 13266	SEAL - shift rod	1
8	C 13211	BEARING - roller	1
9	C 12723	CAP - shift rod	1
10	221- 4	PLUG - filler and drain 1/2"	2
11	C 22638	SHAFT - axle, short R.H. (644 and 646)	1
12	C 22637	SHAFT - axle, long L.H. (644 and 646)	1
13	C 13197	COVER - transmission	1
14	138- 2073	PIN - roll 3/16" x 1-1/4"	1
15	B 52144	RING - retainer, axle	2
16	126- 128	KEY - woodruff, brake idler	1
17	C 13196	GASKET - transmission cover	1
18	A 50096	BREATHER - transmission	1
19	192- 19	LOCKWASHER - 1/4"	6
20	113- 3	BOLT - 1/4" x 3/4" NC hex	6
21	C 12725	FORK - shift	1
22	C 16339	ROD - gear shift	1
23	C 14168	RING - retaining	2
24	C 14644	GEAR - cluster input	1
25	C 12551	GEAR - high 41 tooth	1
26	C 12552	GEAR - low 55 tooth	1
27	NSS	KIT - diff. case (Includes Ref. 34 & 35)	1
28	C 25258	BRAKE DRUM (also use C25254)	1
29	NSS	GEAR - differential pinion	2
30	NSS	GEAR - differential	2
31	NSS	WASHER - pinion thrust	2
32	NSS	PIN - differential cross	1
33	NSS	PIN - differential cross lock	1
34	28- 680	SCREW - 3/8" x 5" NF hex	4
35	131- 1232	NUT - lock 3/8" NC hex	4
36	C 12718	WASHER - differential	2
37	C 14223	WASHER - spacer	UAR
38	C 25254	GEAR - brake idler (also use C25258)	1
39	C 14222	RING - retainer, brake idler	1
40	113- 417	BOLT - 1/2" x 1-1/4" NC transaxle mounting	6
40	166- 86	BOLT - 1/2" - 13 x 1-1/4" 12 pt. flange	1
41	192- 23	LOCKWASHER - 1/2"	6
42	C 22843	SHAFT - axle, short R.H. (644BH and 646BH) (used in LL-120 Hi-Flotation kit)	1
43	C 22842	SHAFT - axle, long L.H. (644BH and 646BH) (used in LL-120 Hi-Flotation kit)	1
44	C 25177	DIFFERENTIAL	1

TRANSMISSION AND FINAL DRIVE

(644 - USED S/N 9757922 AND AFTER)
 (646 - USED S/N 9758258 AND AFTER)
 (646BH - USED S/N 9758258 AND AFTER)



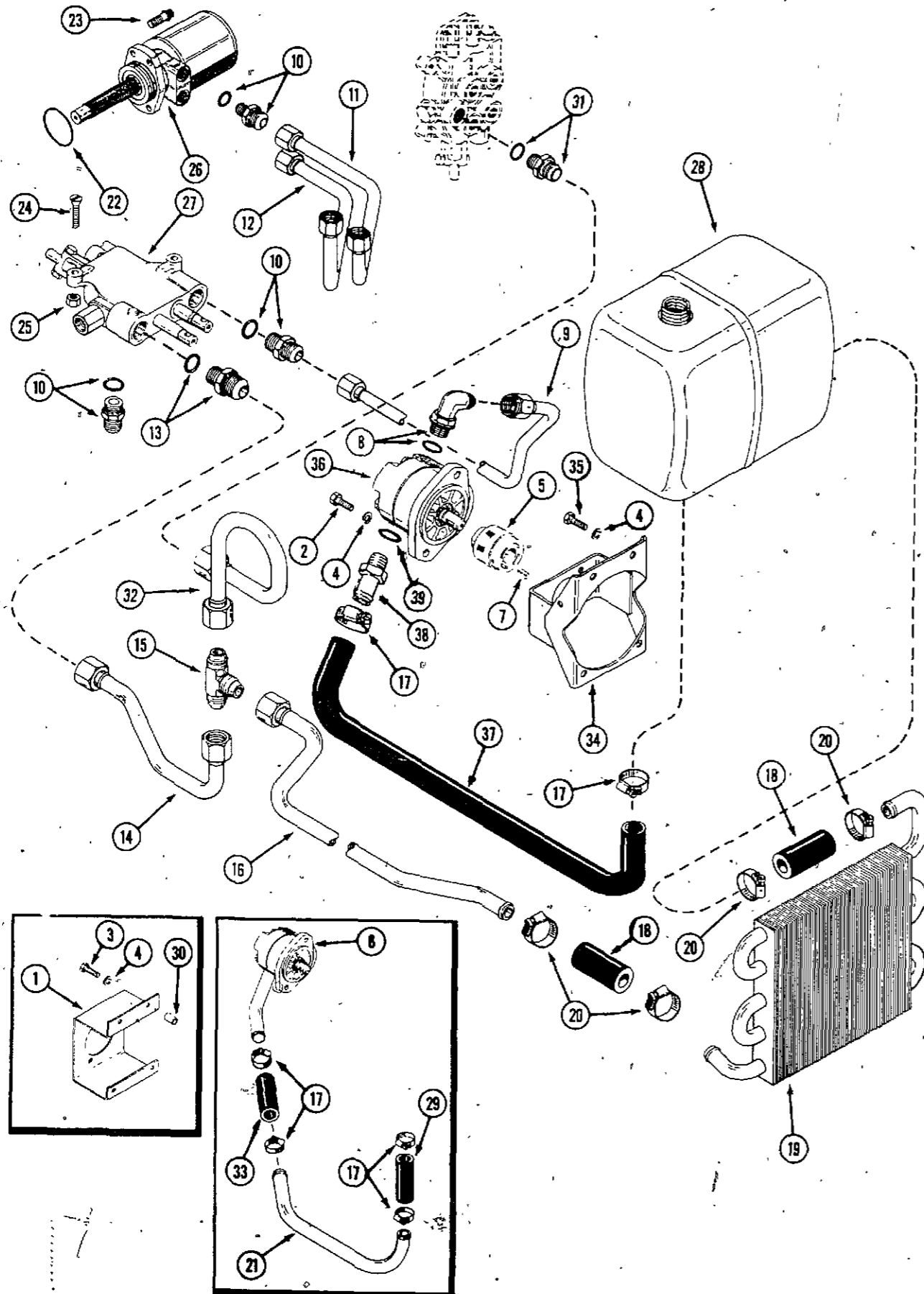
REF.	PART NO.	DESCRIPTION	REQ'D
	C 24843	CASE ASSEMBLY - (644 and 646)(used S/N 9757922 and after)	1
	C 24846	CASE ASSEMBLY - (644BH and 646BH)(used S/N 9757922 and after)	1
1	NSS	CASE - transmission (order assembly above)	1
2	C 12713	BEARING - flanged	2
3	C 24804	BEARING - flanged	2
4	C 24803	SEAL - axle	3
5	C 13241	BEARING - sleeve	1
6	C 13385	BEARING - sleeve	1
7	C 13266	SEAL - shift rod	1
8	F 7232	BEARING - roller	1
10	221- 4	PLUG - filler and drain 1/2"	2
11	C 22638	SHAFT - axle, short R.H. (644 and 646)	1
12	C 22637	SHAFT - axle, long L.H. (644 and 646)	1
13	C 13197	COVER - transmission	1
14	138- 2073	PIN - roll 3/16" x 1-1/4"	1
15	B 52144	RING - retainer, axle	2
16	126- 128	KEY - woodruff, brake idler	1
17	C 13196	GASKET - transmission cover	1
18	A 50096	BREATHER - transmission	1
19	192- 19	LOCKWASHER - 1/4"	6
20	113- 3	BOLT - 1/4" x 3/4" NC hex	6
21	C 12725	FORK - shift	1
22	C 24802	ROD - gear shift	1
23	C 14168	RING - retaining	1
24	C 14644	GEAR - cluster input	2
25	C 12551	GEAR - high 41 tooth	1
26	C 12552	GEAR - low 55 tooth	1
27	NSS	KIT - diff. case (Includes Ref. 34 & 35)	1
28	C 25258	BRAKE DRUM (also use C25254)	1
29	NSS	GEAR - differential pinion	2
30	NSS	GEAR - differential	2
31	NSS	WASHER - pinion thrust	2
32	NSS	PIN - differential cross	1
33	NSS	PIN - differential cross lock	1
34	28- 680	SCREW - 3/8" x 5" NF hex.	4
35	131- 1232	NUT - lock 3/8" NC hex	4
36	C 12718	WASHER - differential	2
37	C 14223	WASHER - spacer	1
38	C 25254	GEAR - brake idler (also use C25258)	1
39	C 14222	RING - retainer, brake idler	1
40	113- 417	BOLT - 1/2" x 1-1/4" NC transaxle mounting)	6
40	166- 86	BOLT - 1/2" - 13 x 1-1/4" 12 pt. flange	1
41	192- 23	LOCKWASHER - 1/2"	6
42	C 22843	SHAFT - axle, short R.H. (644BH and 646BH)(used in LL-120 Hi-Flotation kit)	1
43	C 22842	SHAFT - axle, long L.H. (644BH and 646BH)(used in LL-120 Hi-Flotation kit)	1
44	C 25177	DIFFERENTIAL	1



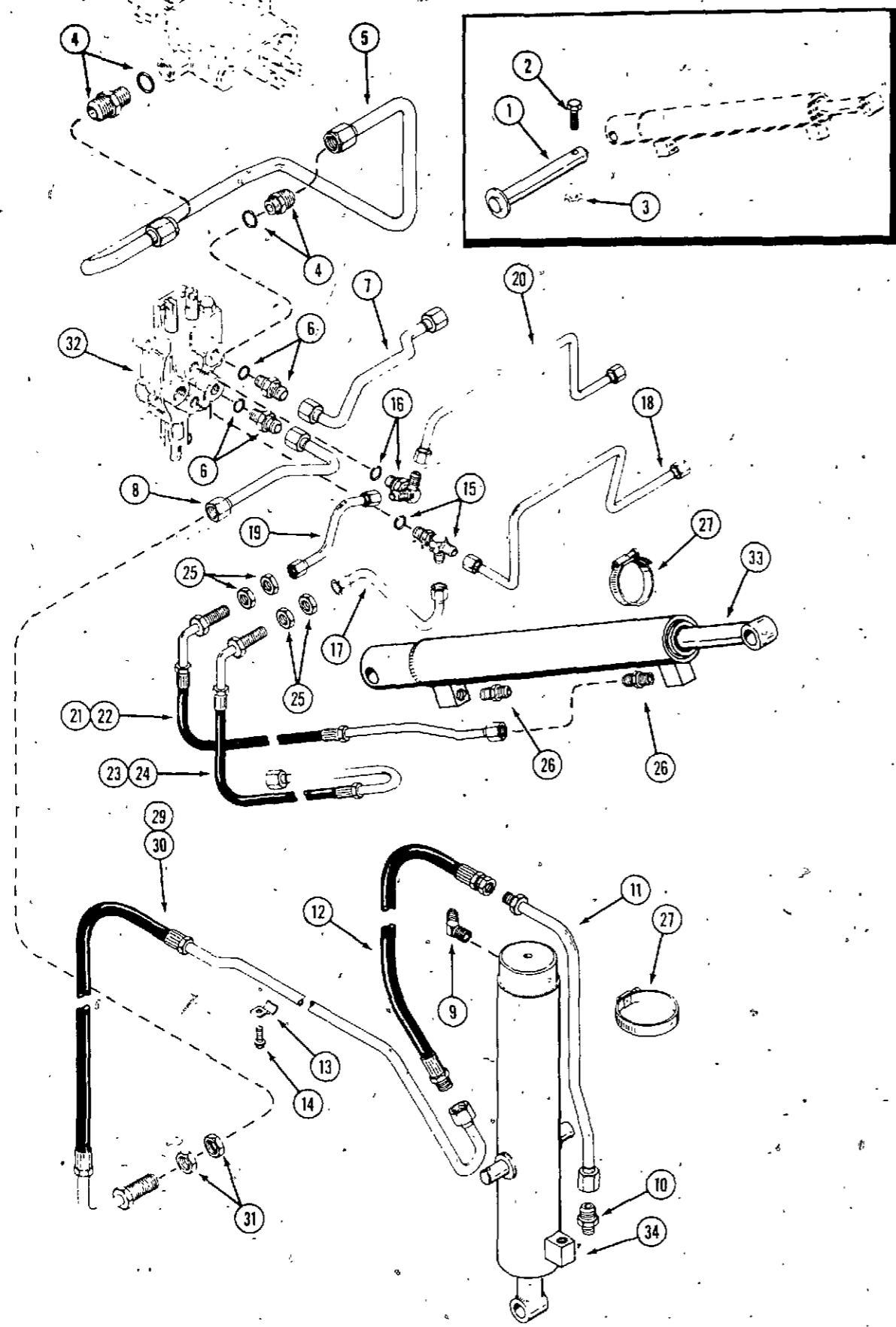
HYDRAULIC SYSTEM 644 AND 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 15335	SUPPORT - pump	1
2	114- 200	BOLT - 3/8" x 1" NF hex	2
3	113- 207	BOLT - 3/8" x 1" NC hex	4
4	192- 21	LOCKWASHER - 3/8"	6
5	C 25208	COUPLING - pump (repairs page 73)	1
6	NSS	PUMP - hydraulic (repairs page 73) (used before S/N 9757973) (use C25053 for service)	1
6	C 25053	PUMP - hydraulic (repairs page 73) used S/N 9757973 and after	1
7	W 5063-S	KEY - square	1
8	214- 14	CLAMP - hose	4
9	C 18797	HOSE - pump to valve	1
10	218- 5062	FITTING - hydraulic (includes 218-5007 "O" - ring)	5
11	C 18159	TUBE - valve to motor, upper (see page 107 S/N 9771567 and after)	1
12	C 18160	TUBE - valve to motor, lower (see page 107 S/N 9771567 and after)	1
13	218- 5065	FITTING - hydraulic (includes 218-5007 "O" - ring)	1
14	C 21611	TUBE - valve to tee	1
15	218- 596	TEE - 1-1/16"	1
16	C 21641	HOSE - heat exchanger to tee	1
17	C 21668	HOSE - rubber 6-1/2"	1
18	C 14245	HOSE - 3"	2
19	C 21548	EXCHANGER - heat	1
20	214- 9	CLAMP - hose	4
21	C 21642	TUBE - pump suction	1
22	A 30095	SEAL - hydraulic motor to case	1
23	166- 86	SCREW - 1/2" x 1-1/4" NC flanged 12 pt.	4
24	171- 247	SCREW - 5/16" x 1-1/4" NC, flat head machine	2
25	131- 351	NUT - lock 5/16" NC hex	2
26	C 14655	MOTOR - hydraulic drive (repairs page 75)	1
27	C 21497	VALVE - hydraulic control (repairs page 69)	1
28	C 21553	RESERVOIR - oil	1
29	218- 5353	FITTING - valve, bucket (includes 218-5006 "O" - rings)	1
30	C 21616	TUBE - bucket to tee	1
31	C 19438	HOSE - rubber	1

HYDRAULIC SYSTEM 646, 646BH
(ALSO SEE PAGE 119 FOR SERIES "B" BACKHOE HYDRAULIC CONNECTIONS)



REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	SUPPORT - pump (order item 34)	1
2	114- 200	BOLT - 3/8" x 1" NF hex	2
3	113- 209	BOLT - 3/8" x 1-1/2" NC hex (used prior to S/N 9732040)	4
4	192- 21	LOCKWASHER - 3/8"	6
5	C 25210	COUPLING - pump (repairs page 73B) (use before S/N 9790960)	1
5	C 25290	COUPLING - pump (use S/N 9790960 and after) repairs page 73B	1
6	NSS	PUMP - hydraulic (repairs page 73B) (used prior to S/N 9758236) (order C23961, H309047, 217-390 and 218-5008)	1
7	B 90366	KEY - square	1
8	218- 5107	FITTING - 90° pump out (includes 218-5007 "O" - ring)	1
9	C 18284	TUBE - pump to valve	1
10	218- 5062	FITTING - hydraulic (includes 218-5007 "O" - ring)	5
11	C 18159	TUBE - valve to motor, upper (see page 107 S/N 9771784 and after)	1
12	C 18160	TUBE - valve to motor, lower (see page 107 S/N 9771784 and after)	1
13	218- 5065	FITTING - hydraulic (includes 218-5007 "O" - ring)	1
14	C 21611	TUBE - valve to tee	1
15	218- 596	TEE - 1-1/16"	1
16	C 21662	TUBE - heat exchanger to tee (see page 119 for Series "B" connections)	1
17	214- 256	CLAMP - hose	4
18	C 14245	HOSE - 3"	2
19	C 21548	EXCHANGER - heat	1
20	214- 256	CLAMP - hose	4
21	C 19447	TUBE - pump suction (646) (used prior to S/N 9758236)	1
21	C 19447	TUBE - pump suction (646BH) used prior to S/N 9732040	1
21	C 23914	TUBE - pump suction (646BH Series "B") (used S/N 9732040 to S/N 9758236)	1
22	A 30095	SEAL - hydraulic motor to case	1
23	166- 86	SCREW - 1/2" x 1-1/4" NC flanged 12 pt.	4
24	171- 247	SCREW - 5/16" x 1-1/4" NC, flat head machine	2
25	131- 351	NUT - lock 5/16" NC hex	2
26	C 14655	MOTOR - hydraulic drive (repairs page 75)	1
27	C 21497	VALVE - hydraulic control (repairs page 69)	1
28	C 21553	RESERVOIR - oil	1
29	C 19438	HOSE - rubber (used prior to S/N 9758236)	2
30	C 17622	SPACER - pump support	4
31	218- 5353	FITTING - valve, bucket (includes 218-5006 "O" - ring)	1
32	C 21616	TUBE - bucket valve to tee	1
33	C 19438	HOSE - rubber (646) (used prior to S/N 9758236)	1
33	C 23916	HOSE - rubber (646BH Series "B") (used S/N 9732040 to S/N 9758236)	1
33	C 19438	HOSE - rubber (646BH) used prior to S/N 9732040	1
34	C 23634	SUPPORT - pump	1
35	113- 206	BOLT - 3/8" x 3/4"	4
36	C 23961	PUMP - hydraulic (used S/N 9758236 to S/N 9790960) repairs page 73	1
36	C 25287	PUMP - hydraulic (use S/N 9790960 and after) repairs page 73B	1
37	H 309047	HOSE - tank to pump (used S/N 9758236 and after)	1
38	217- 390	FITTING - pump inlet (used S/N 9758236 and after)	1
39	218- 5008	"O" RING - for 217-390 fitting (used S/N 9758236 and after)	1



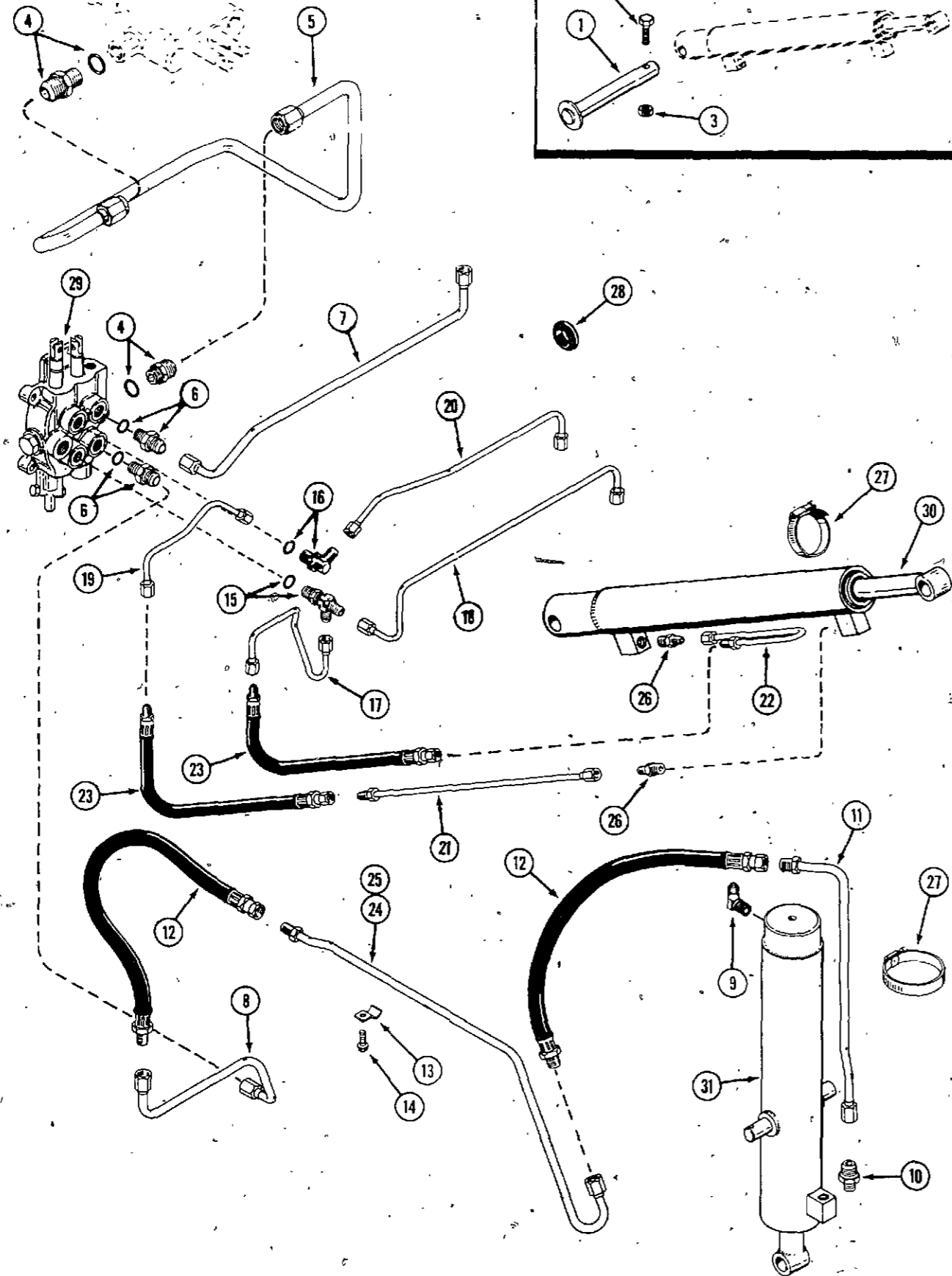
HYDRAULIC SYSTEM - BUCKET CONTROL

(USED BEFORE S/N 9771567) 644
 (USED BEFORE S/N 9771784) 646 and 646BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 17714	PIN - cylinder mounting	2
2	113- 122	BOLT - 5/16" x 1-1/2" NC hex	2
3	131- 173	NUT - lock 5/16"	2
4	218- 5066	FITTING - hydraulic (includes 218-5006 "O" - ring)	2
5	C 18175	TUBE - valve to bucket valve	1
6	218- 5351	FITTING - hydraulic, bucket valve (includes 218-5005 "O" - ring)	2
7	C 18170	TUBE - bucket valve to left bulkhead	1
8	C 18171	TUBE - bucket valve to right bulkhead	1
9	218- 533	FITTING - 45°, bucket cylinder	1
10	218- 455	FITTING - straight, bucket cylinder	1
11	C 18164	TUBE - bucket cylinder	1
12	C 18156	HOSE - bucket, cylinder	2
13	C 18304	CLIP - hose tube mounting	4
14	187- 1036	SCREW - clip mounting	4
15	218- 5243	TEE - bucket valve, (includes 218-5005 "O" - ring)	1
16	C 18295	FITTING - special 45° (includes 218-5005 "O" - ring)	1
17	C 18169	TUBE - bucket valve to right front bulkhead	1
18	C 18176	TUBE - bucket valve to left front bulkhead	1
19	C 18168	TUBE - bucket valve to right rear bulkhead	1
20	C 18174	TUBE - bucket to valve to left front bulkhead	1
21	C 18166	HOSE TUBE - left rear to lift arm cylinder, rod end	1
22	C 18157	HOSE TUBE - right rear to lift arm cylinder, rod end	1
23	C 18165	HOSE TUBE - right front to lift arm cylinder, foot end	1
24	C 18158	HOSE TUBE - left front to lift arm cylinder, foot end	1
25	218- 1254	NUT - jam 9/16"	8
26	218- 443	FITTING - lift arm cylinder	4
27	214- 262	CLAMP - hose, large	3
29	C 18172	HOSE TUBE - bucket cylinder, top left	1
30	C 18173	HOSE TUBE - bucket cylinder, top right	1
31	218- 1255	NUT - jam 3/4"	4
32	C 18179	VALVE - bucket control (repairs page 71)	1
33	C 11527	CYLINDER - lift arm (repairs page 77)	2
34	C 11528	CYLINDER - bucket (repairs page 77)	1

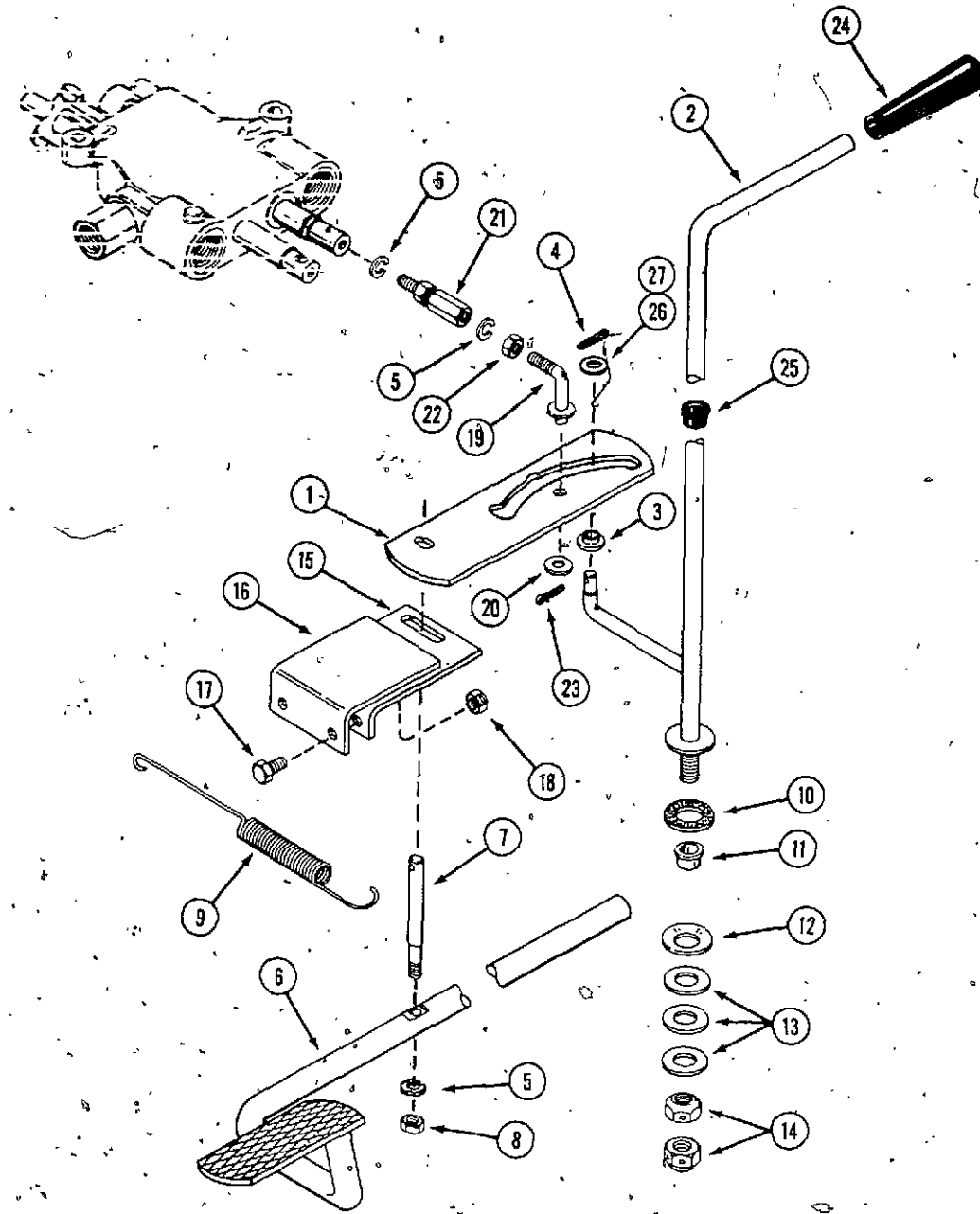
HYDRAULIC SYSTEM - BUCKET CONTROL

(Used S/N 9771567 and after) 644
 (Used S/N 9771784 and after) 646 and 646BH



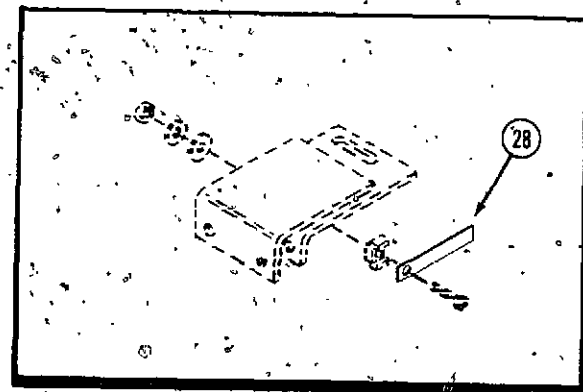
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 17714	PIN - cylinder mounting	2
2	113- 122	BOLT - 5/16" - 18 x 1-1/2"	2
3	131- 173	NUT - lock 5/16"	2
4	218- 5066	FITTING - hydraulic (includes 218-5006 "O" ring)	2
5	C 18175-	TUBE - travel valve to bucket valve	1
6	218- 5057	FITTING - hydraulic (includes 218-5005 "O" ring)	2
7	C 25162	TUBE - bucket valve to L.H. tower	1
8	C 25161	TUBE - bucket valve to R.H. tower	1
9	218- 533	FITTING - 45°	1
10	218- 443	FITTING - hydraulic	1
11	C 25159	TUBE - bucket cylinder	1
12	720- 303	HOSE - bucket cylinder	4
13	C 25164	CLIP - tube mounting	4
14	187- 1036	SCREW - 1/4" - 20 x 1/2" - tapping	4
15	C 25166	FITTING - "tee" (includes 218-5005 "O" ring)	1
16	C 25167	FITTING - special 45° (includes 218-5005 "O" ring)	1
17	C 25163	TUBE - bucket valve to R.H. tower	1
18	C 25157	TUBE - bucket valve to L.H. tower	1
19	C 25160	TUBE - bucket valve to R.H. tower	1
20	C 25158	TUBE - bucket valve to L.H. tower	1
21	C 25153	TUBE - lift cylinder, rod end	1
22	C 25154	TUBE - lift cylinder, piston end	1
23	720- 301	HOSE - lift cylinder	4
24	C 25155	TUBE - bucket cylinder R.H.	1
25	C 25156	TUBE - bucket cylinder L.H.	1
26	218- 1022	FITTING - hydraulic	4
27	214- 262	CLAMP - 2-5/16 to 3-1/4	3
28	C 25165	GROMET - tower	2
29	C 18179	VALVE - bucket control (repairs page 71)	1
30	C 11527	CYLINDER - lift arm (repairs page 77)	2
31	C 11528	CYLINDER - bucket (repairs page 77)	1

DIRECTION CONTROL

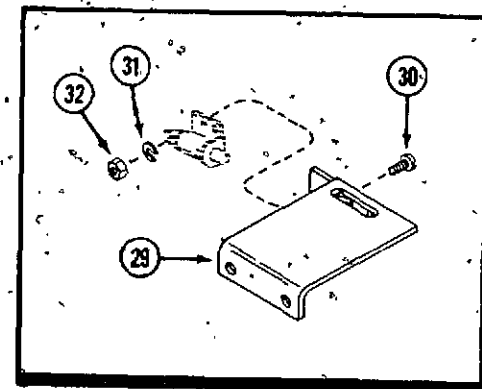


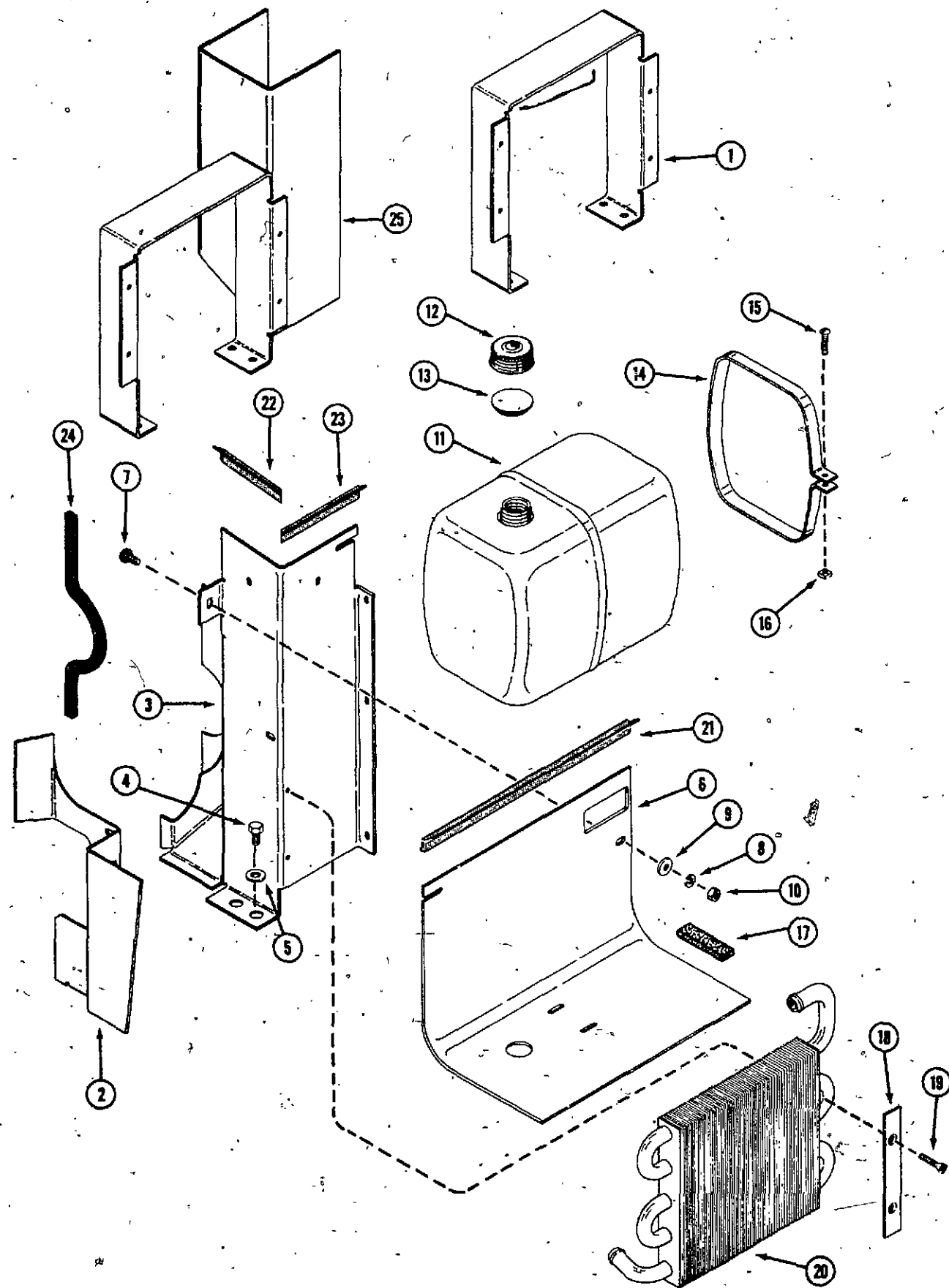
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 22986	ARM - control	1
2	C 17569	LEVER - direction control	1
3	C 23514	FOLLOWER - cam	1
4	132- 46	PIN - cotter 1/8" x 3/4"	1
5	192- 20	LOCKWASHER - 5/16"	1
6	C 19900	PEDAL - motion control	3
7	C 17553	ROD - pedal control	1
8	129- 102	NUT - 5/16" NC hex	1
9	C 18277	SPRING - pedal return	1
10	C 17551	DISC - friction	1
11	C 12127	BUSHING - nylon	1
12	C 18391	WASHER - spring	1
13	195- 541	WASHER - 5/8"	1
14	131- 165	NUT - 1/2" NC hex	3
15	C 19902	BRACKET - valve control (early production)	2
16	C 18012	BRACKET - guide	1
17	113- 103	BOLT - 5/16" x 1" NC hex	1
18	131- 176	NUT - lock 5/16" NC hex	2
19	C 19220	ROD - valve control	2
20	195- 518	WASHER - 1/4"	1
21	C 19025	BALL JOINT	2
22	129- 122	NUT - 5/16" NF hex	1
23	132- 320	PIN - cotter 3/32" x 3/4"	2
24	A 37247	KNOB - control lever	1
25	C 12093	BUSHING - flip lok	1
26	C 19376	WASHER - spacer, 3/32"	1
27	C 19377	WASHER - spacer, 1/32"	1
28	C 19258	SWITCH - safety (see electrical pages 87 and 89)	1
29	C 22915	BRACKET - valve control (late production)	1
30	182- 528	SCREW - #10- 32 x 1/2"	2
31	192- 18	LOCKWASHER - #10	2
32	129- 37	NUT - #10- 32	2

EARLY PRODUCTION



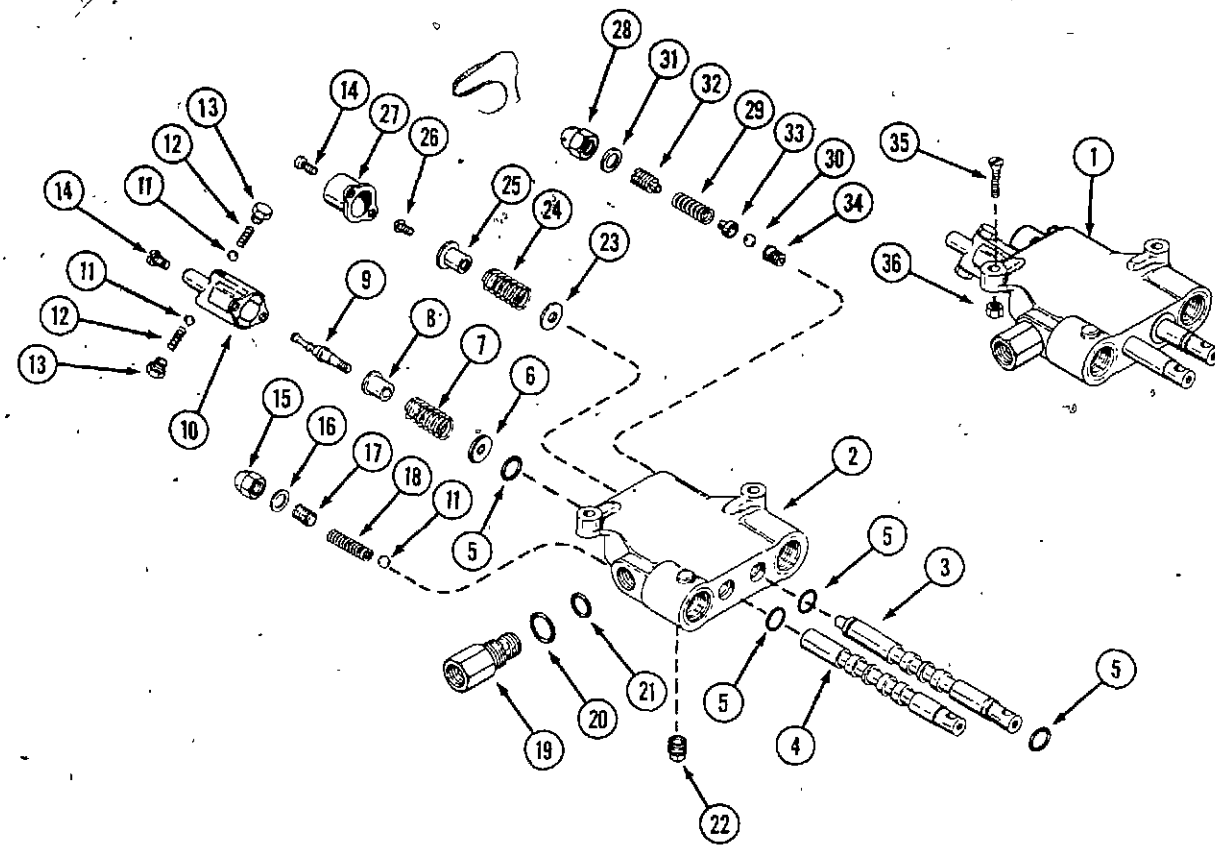
LATE PRODUCTION





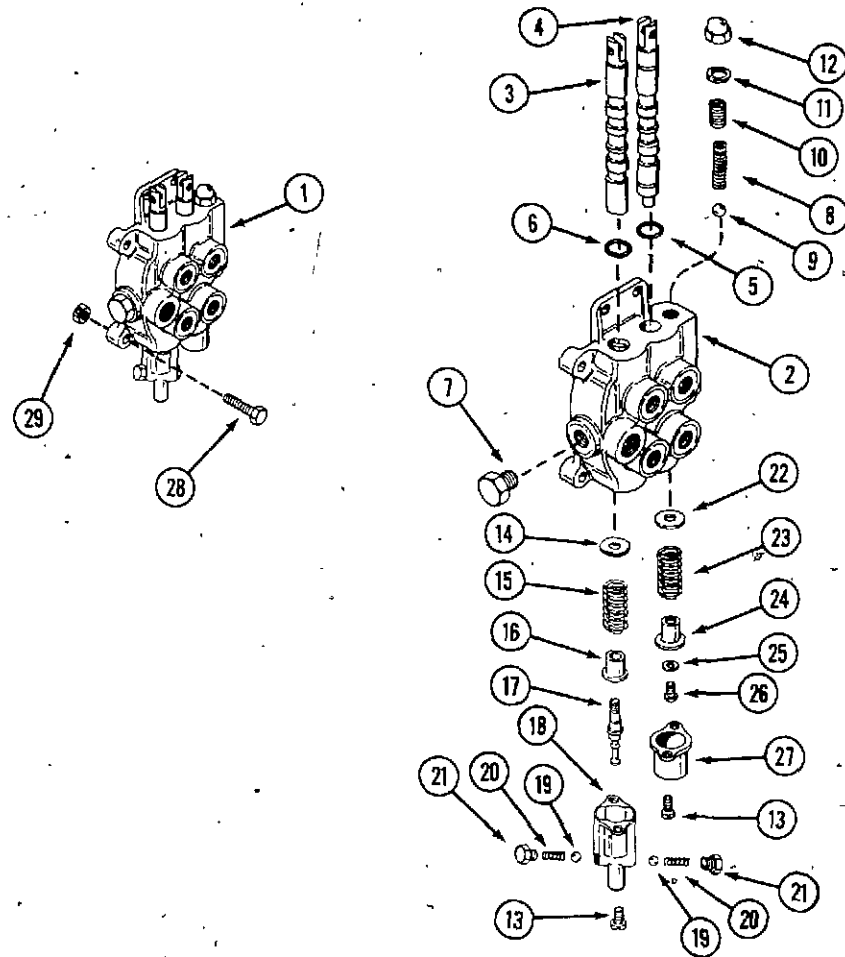
HYDRAULIC RESERVOIR MOUNTING

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 21665	SUPPORT - reservoir (644 and 644BH)(used prior to S/N 9731697)	1
2	C 23922	SUPPORT - reservoir R.H. (646 and 646BH)	1
3	C 21550	SUPPORT - reservoir L.H. (646 and 646BH)	1
4	113- 101	BOLT - 5/16" x 1/2" NC hex	4
5	195- 103	WASHER - 5/16" x 7/8" (646 and 646BH)	4
6	C 21637	SUPPORT - reservoir (646 and 646BH)	1
7	121- 106	BOLT - 5/16" x 1/2" N.C. hex flange (646 and 646BH)	2
8	192- 20	WASHER - lock 5/16" (646 and 646BH)	2
9	195- 521	WASHER - 5/16" (646 and 646BH)	4
10	129- 102	NUT - 5/16" x #18, hex (646 and 646BH)	2
11	C 21553	RESERVOIR - hydraulic oil	1
12	C 25237	CAP - reservoir with insert	1
13	NSS	INSERT - reservoir cap (use C25239 and C25240)	1
14	C 16796	STRAP - reservoir mounting (1 only on 646 and 646BH)	2
15	173- 215	SCREW - 1/4", round head machine (1 only on 646 and 646BH)	2
16	129- 504	NUT - 1/4" NC hex (1 only on 646 and 646BH)	2
17	C 14690	CUSHION - reservoir	2
18	C 14246	BRACKET - heat exchanger mounting	2
19	187- 1252	SCREW - 1/4" x 1-1/2" NC flat head Phillips	4
20	C 21548	EXCHANGER - heat	1
21	C 21648	SEAL - channel (646 and 646BH)	1
22	C 21649	SEAL - channel (646 and 646BH)	1
23	C 21650	SEAL - channel (646 and 646BH)	1
24	C 21638	SEAL - strip (646 and 646BH)	1
25	C 23679	SUPPORT - reservoir (644 and 644BH) used S/N 9731697 and after	1



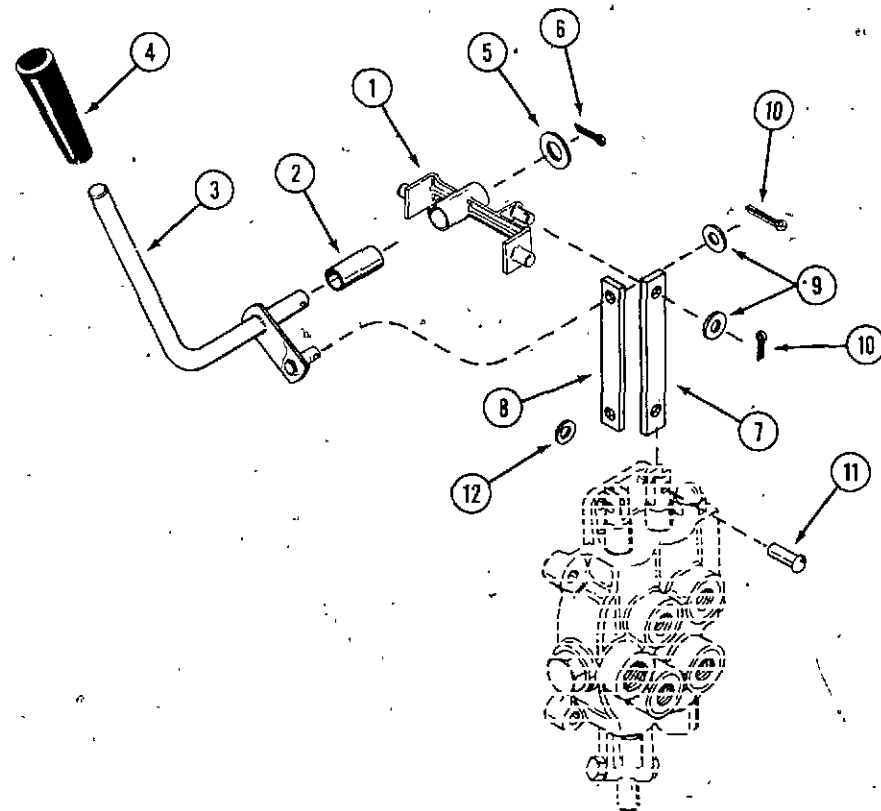
HYDRAULIC CONTROL VALVE - TRACTOR

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 21497	VALVE - tractor control	1
2	NSS	BODY - valve (order C 21497 valve)	1
3	NSS	SPOOL - valve (order C 21497 valve)	1
4	NSS	SPOOL - valve (order C 21497 valve)	1
5	A 7982	SEAL - "O" ring, spool	4
6	C 17440	WASHER	1
7	C 18850	SPRING - detent	1
8	C 13200	SPACER	1
9	C 17439	DETENT - spool	1
10	C 17438	COVER - detent	1
11	211- 7	BALL - steel 1/4"	3
12	C 17444	SPRING - detent	2
13	C 17443	SCREW - detent, cap	2
14	169- 114	SCREW - cover	4
15	129- 531	CAP - relief adjust	1
16	C 17435	GASKET - relief adjust cap	1
17	C 17433	SCREW - relief adjust	1
18	C 21505	SPRING - relief	1
19	C 18852	BUSHING - power beyond	1
20	218- 5007	SEAL - "O" ring, bushing	1
21	A 30097	SEAL - "O" - ring	1
22	221- 841	PLUG - pipe 1/4"	1
23	195- 521	WASHER - return	1
24	C 18850	SPRING - return	1
25	C 18853	SPACER	1
26	193- 524	SCREW - with lockwasher	1
27	C 18847	COVER - return	1
28	C 21510	CAP - relief adjust	1
29	C 21507	SPRING - relief	1
30	211- 9	BALL - steel 5/16"	1
31	C 21508	GASKET - relief adj, cap	1
32	C 21509	SCREW - relief adjust	1
33	C 21506	RETAINER, ball relief	1
34	C 21522	SEAT - ball, relief	1
35	171- 247	SCREW - valve mounting 5/16" x 1-1/4" flat head machine	2
36	131- 351	NUT - 5/16" NC hex	2
37	C 18851	KIT - detent (includes items 6, 7, 8, 9, 10, 11, 12, 13 & 14)	1
38	C 21511	KIT - relief (includes items 11, 15, 16, 17 & 18)	1
39	C 21521	KIT - relief (includes items 28, 29, 30, 31, 32, 33 & 34)	1



HYDRAULIC CONTROL VALVE - BUCKET

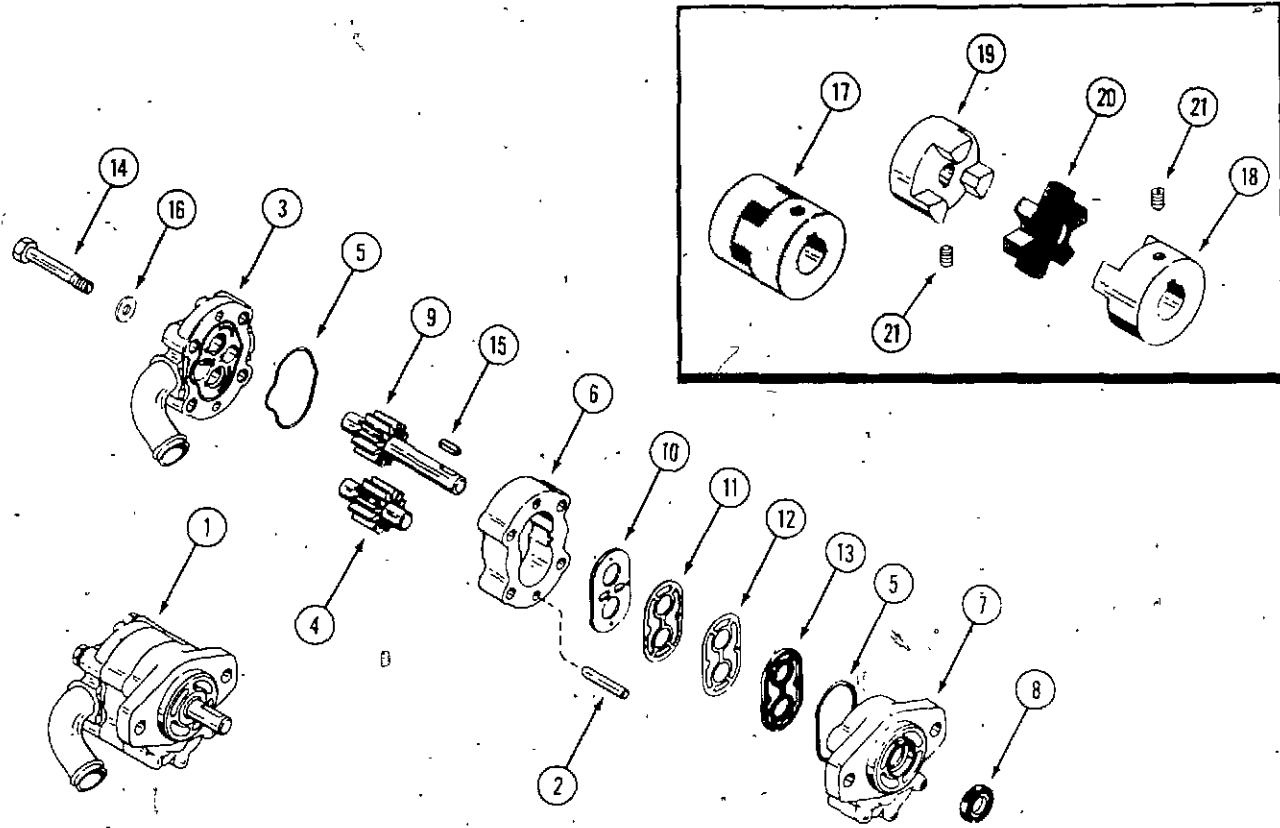
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 18179	VALVE - bucket control	1
2	NSS	BODY - valve (order C 18179 valve)	1
3	NSS	SPOOL - valve (order C 18179 valve)	1
4	NSS	SPOOL - valve (order C 18179 valve)	1
5	A 29197	SEAL - "O" ring, spool	2
6	A 7982	SEAL - "O" ring, spool	2
7	221- 843	PLUG - 3/8"	1
8	C 17432	SPRING - relief (early production)	1
9	211- 9	BALL - steel 5/16" (early production)	1
10	C 17433	SCREW - relief adjust (early production)	1
11	C 17435	GASKET - adjust screw (early production)	1
12	129- 531	CAP - adjust screw (early production)	1
13	169- 114	SCREW - cover	4
14	C 17440	WASHER	1
15	C 17441	SPRING - return	1
16	C 13200	SPACER - detent	1
17	C 17439	DETENT - spool	1
18	C 17438	COVER - detent	1
19	211- 7	BALL - steel 1/4"	2
20	C 17444	SPRING - detent	2
21	C 17443	SCREW - detent	2
22	195- 521	WASHER - return	1
23	C 18850	SPRING - return	1
24	C 13200	SPACER	1
25	195- 510	WASHER	1
26	193- 524	SCREW	1
27	C 18847	COVER - centering	1
28	113- 17	BOLT - valve mounting 1/4" x 1-1/4" NC hex	3
29	131- 1102	NUT - lock 1/4" NC hex	3
	C 18846	KIT - spring center (includes items 22, 23, 24, 25, 26 and 27)	1
	C 18851	KIT - detent (includes items 14, 15, 16, 17, 18, 19, 20 and 22)	1



BUCKET CONTROLS

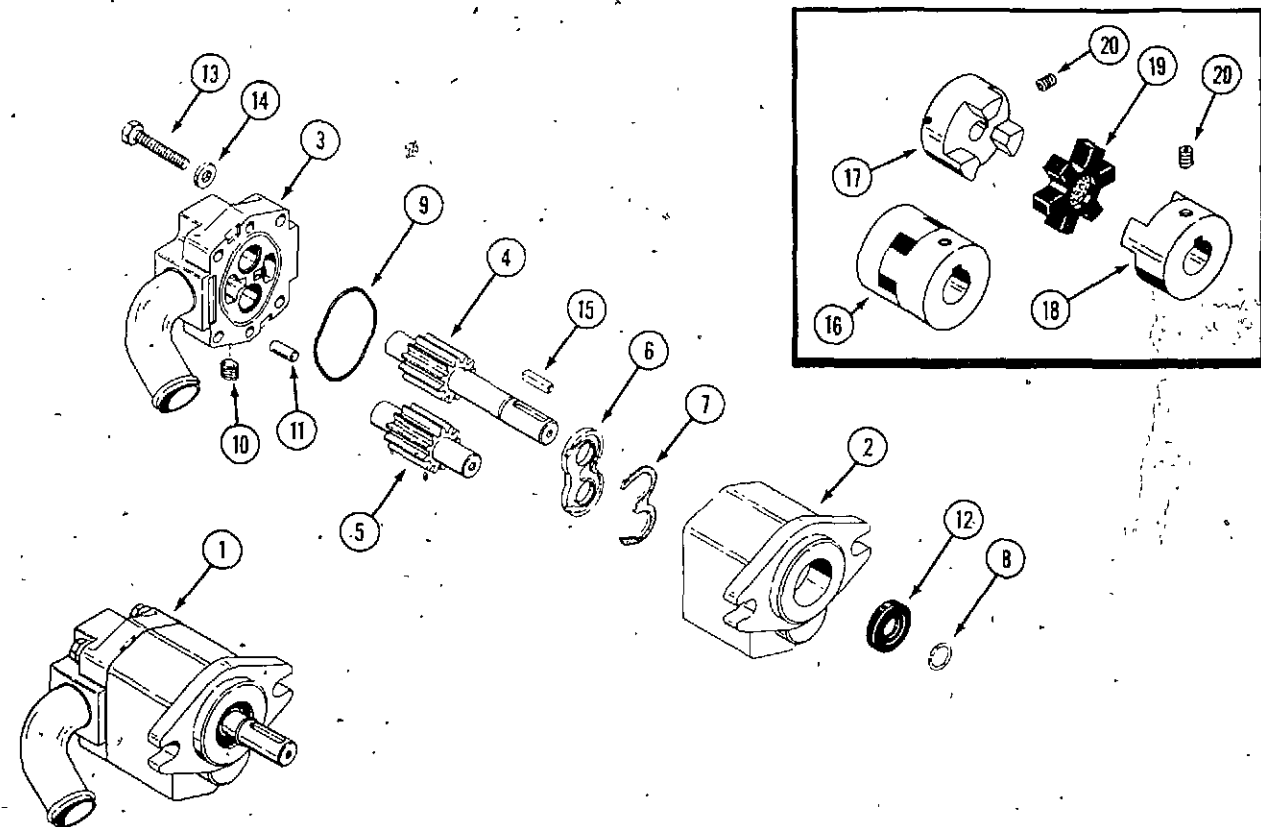
1	C 24445	BRACKET - pivot	1
2	C 16714	BUSHING - pivot bracket	1
3	C 17596	LEVER - bucket control	1
4	A 37247	KNOB - lever, bucket control	1
5	195- 533	WASHER - 1/2"	1
6	132- 321	PIN - cotter 1/8" x 1"	1
7	C 17587	LINK - valve 4"	1
8	C 17588	LINK - valve 3-3/4"	1
9	195- 521	WASHER - 5/16"	2
10	132- 320	PIN - cotter 3/32" x 3/4"	2
11	C 12932	PIN	2
12	C 18845	RETAINER	2

C25053 HYDRAULIC PUMP AND COUPLING - 644

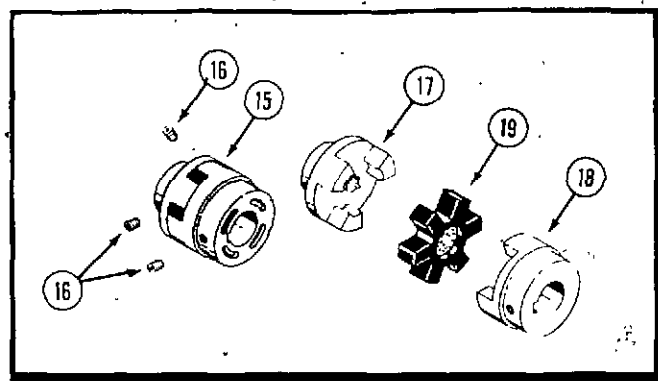
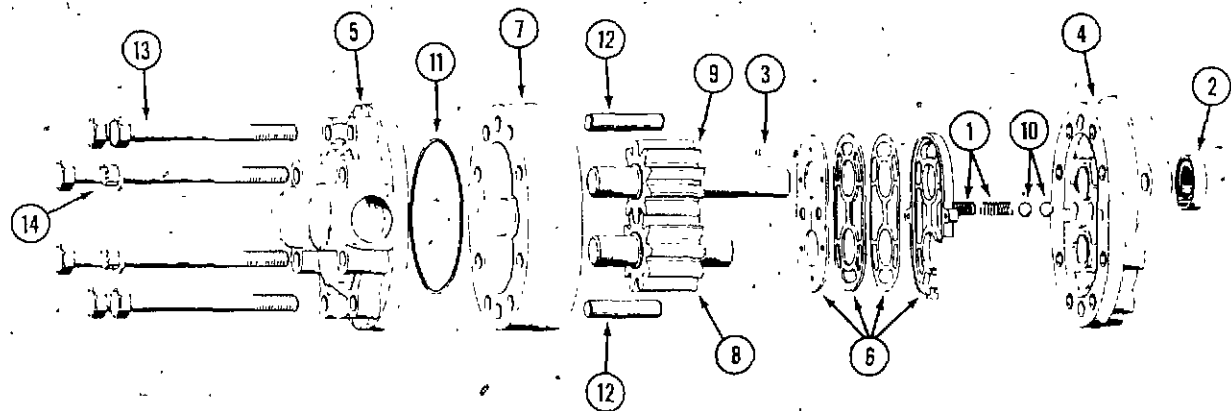
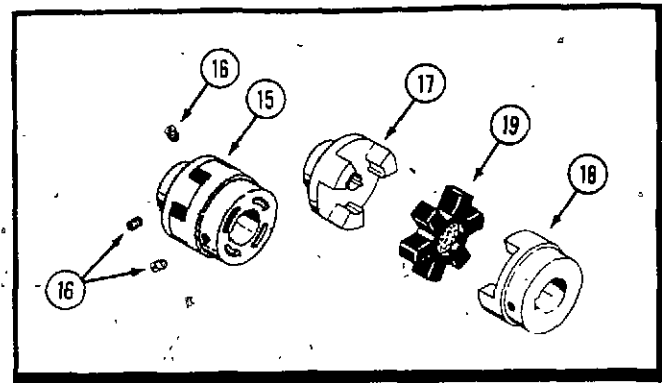
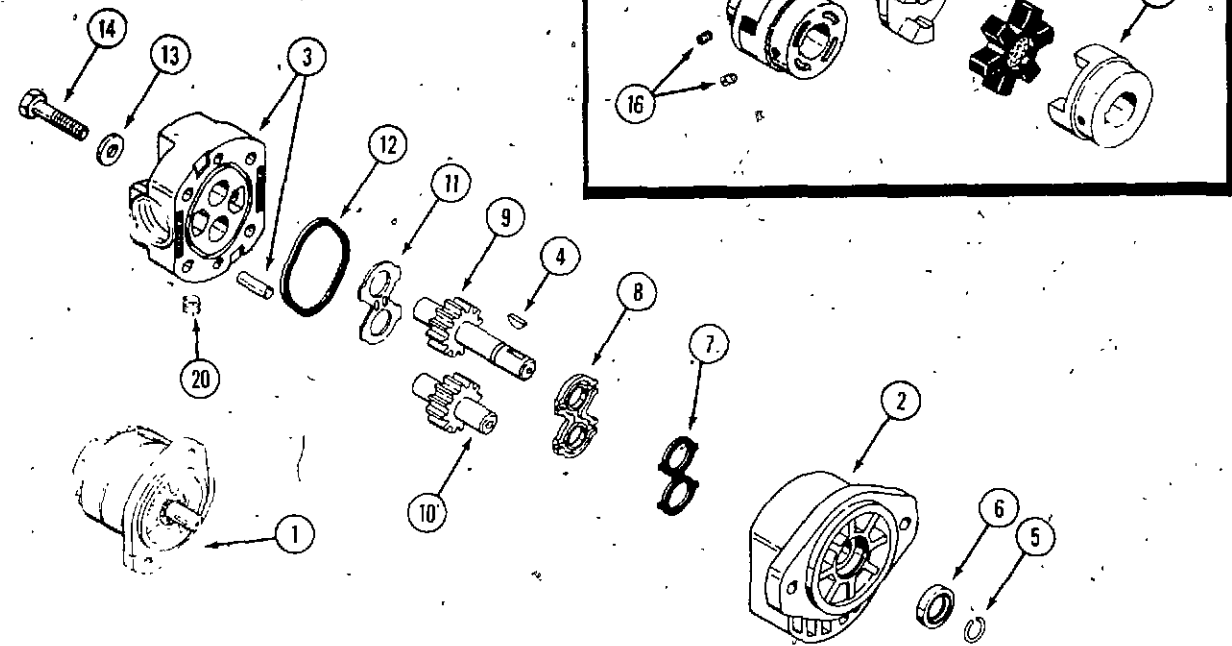


REF.	PART NO.	DESCRIPTION	REQ'D
1	C 25053	PUMP - hydraulic	1
2	F 53109	PIN - dowel	2
3		COVER - rear	1
4	C 15731	GEAR ASSEMBLY - driven	1
5	C 15732	"O" RING	2
6	C 15733	BODY - pump	1
7	C 15734	COVER - front	1
8	C 15735	SEAL - rotary	1
9	NSS	GEAR ASSEMBLY - drive	1
	C 24862	SHAFT - drive	1
	C 24863	GEAR - drive	1
	C 24864	KEY - gear	1
	C 24865	RING - retaining	2
10	C 15737	PLATE - wear	1
11	C 15738	SHIELD - heat	1
12	C 15739	GASKET	1
13	C 15740	SEAL	1
14	13- 540	BOLT	4
15	A 21075	KEY - 1/8" x 3/4"	1
16	A 50773	WASHER	4
17	C 25208	COUPLING - pump	1
18	NSS	HUB - (order item 17)	1
19	NSS	HUB - (order item 17)	1
20	C 15036	SPIDER	1
21	83- 55	SCREW - set 5/16" x 5/16" NC socket head	2

C19743 HYDRAULIC PUMP AND COUPLING - 644 AND 644BH



1	NSS	PUMP - hydraulic (use C25053 pump)	1
2	C 20456	BODY - pump	1
3	C 20457	COVER ASSEMBLY	1
4	C 20460	GEAR - pump, drive	1
5	C 20461	GEAR - pump, driven	1
6	C 20462	PLATE - wear	1
7	NSS	SEAL AND SPACER - wear plate (See Kit below)	1
8	A 35690	RING - retaining	1
9	NSS	SEAL - "O" ring (See Kit below)	1
10	221 849	PLUG - pipe	1
11	D 58188	PIN - dowel	2
12	NSS	SEAL - shaft (See Kit below)	1
13	113- 5	BOLT - 1/4" x 1-1/2" NC hex, grade 5	4
14	D 58189	WASHER - 1/4"	4
15	C 20455	KEY - square 3/16" x 13/16"	1
16	C 25208	COUPLING - pump (644)	1
17	NSS	HUB - coupling (order item 16)	1
18	NSS	HUB - coupling (order item 16)	1
19	C 15036	SPIDER	1
20	83- 55	SETSCREW - 5/16" x 5/16" NC soc. hd.	2
	C 24334	KIT - seal (includes items 7, 9 and 12)	1



HYDRAULIC PUMP AND COUPLING - 646 AND 646BH

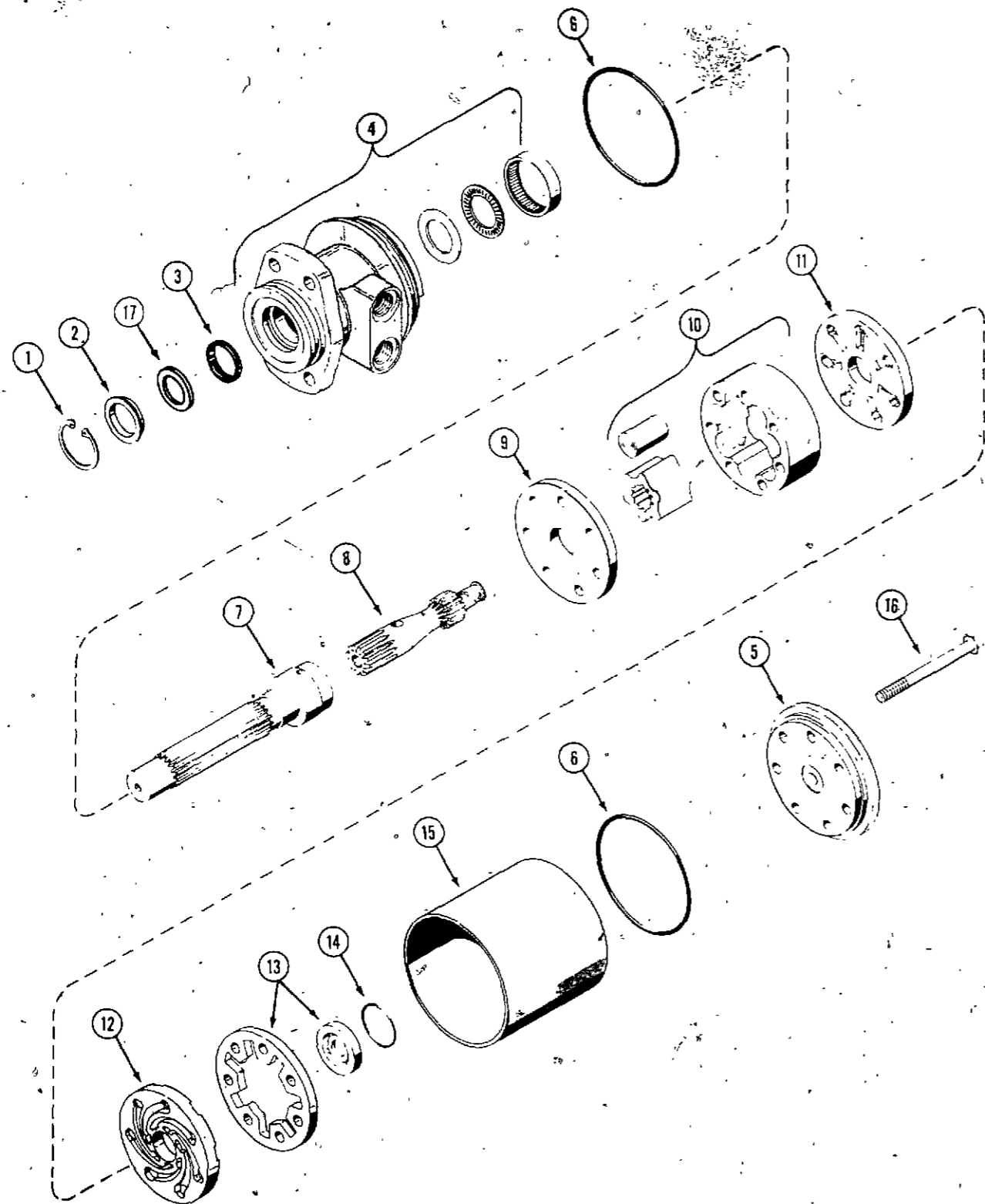
(use before S/N 9790960)

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 23961	PUMP - hydraulic (shown) (used S/N 9758236 and after)	1
1	NSS	PUMP - hydraulic (used prior to S/N 9758236) (order C23961, H309047, 217-390 and 218-5008)	1
2	C 19277	BODY ASSEMBLY (includes bushings)	1
3	C 19278	COVER ASSEMBLY - (includes bushings & pins) (used prior to S/N 9758236)	1
3	C 25101	COVER ASSEMBLY - (includes bushings & dowel pins) (shown) (used S/N 9758236 and after)	1
4	126- 12	KEY - woodruff	1
5	C 18768	RING - snap	1
6	C 19281	SEAL - oil	1
7	C 18764	SEAL - pressure load	1
8	C 19279	PLATE - wear	1
9	C 18761	GEAR - drive	1
10	C 18762	GEAR - driven	1
11	C 19280	PLATE - thrust	1
12	C 18769	SEAL - gasket	1
13	195- 2028	WASHER	1
14	113- 233	BOLT	4
15	C 25210	COUPLING - pump (646)	1
16	178- 858	SCREW - set 5/16" x 3/8"	2
17	NSS	HUB - (order C25210)	1
18	NSS	HUB - (order C25210)	1
19	C 18258	SPIDER - coupling	1
20	221- 841	PLUG - pipe	1

HYDRAULIC PUMP AND COUPLING - 646 AND 646BH

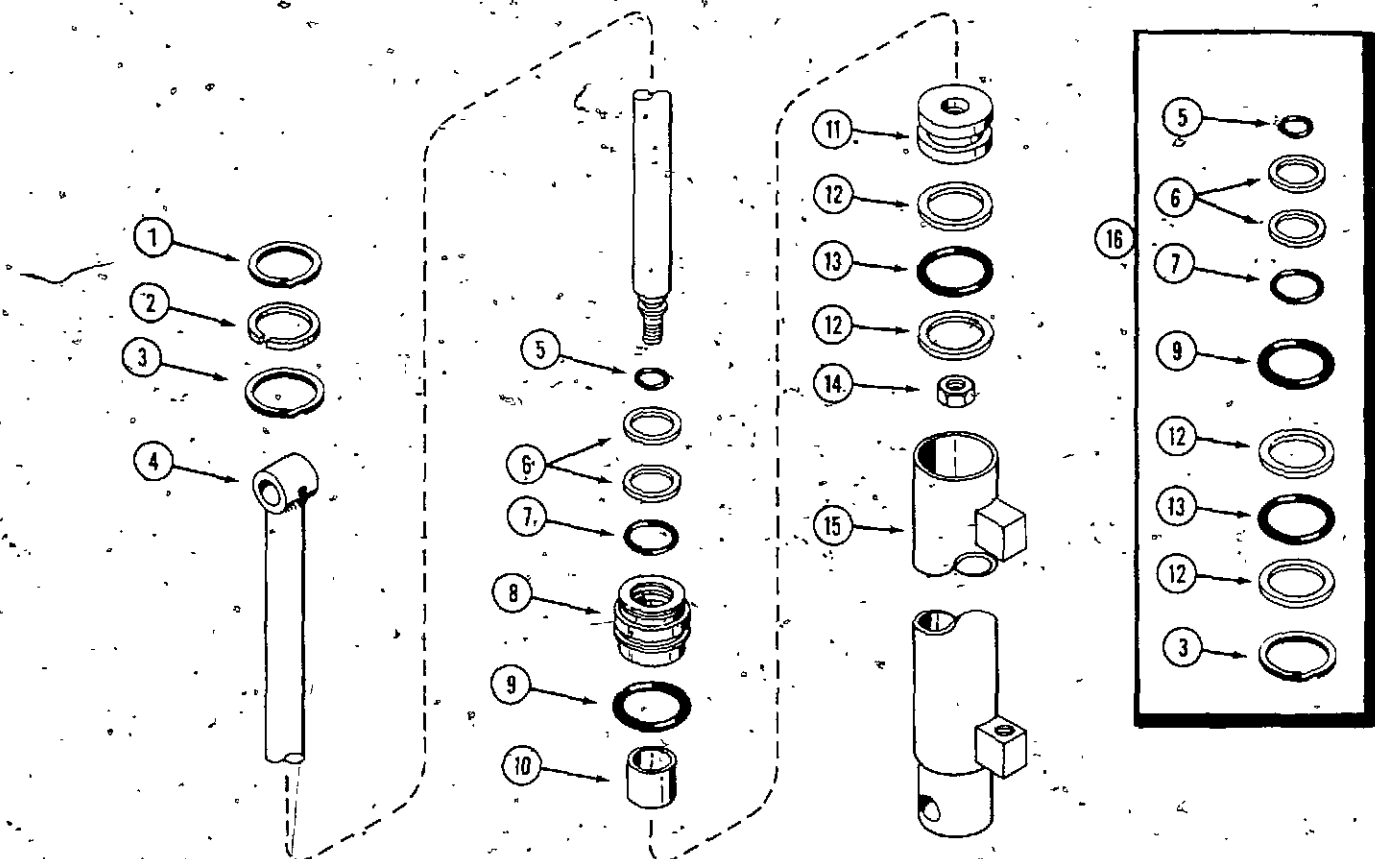
(use S/N 9790960 and after)

	C 25287	PUMP - hydraulic	1
1	F 9883	SPRING	2
2	F 11406	SEAL - shaft	1
3	H 233346	KEY - 3/16" square x .97"	1
4	R 33009	COVER - front	1
5	NSS	COVER - rear	1
6	S 89448	KIT - seal	1
7	NSS	BODY - pump	1
8	NSS	GEAR - driven	1
9	NSS	GEAR - drive	1
10	211- 306	BALL - 7/32" diameter	2
11	H 758599	"O" RING - 1/16" x 3"	1
12	NSS	PIN - dowel 5/16" x 1"	2
13	166- 30	BOLT - 5/16" - 18 x 2" 12 pt. flange	4
14	166- 32	BOLT - 5/16" - 18 x 2-1/2 12 pt. flange	4
15	C 25290	COUPLING - pump	1
16	178- 858	SCREW - set 5/16" x 3/8"	2
17	NSS	HUB - (use C25290)	1
18	NSS	HUB - (use C25290)	1
19	C 18258	SPIDER - coupling	1



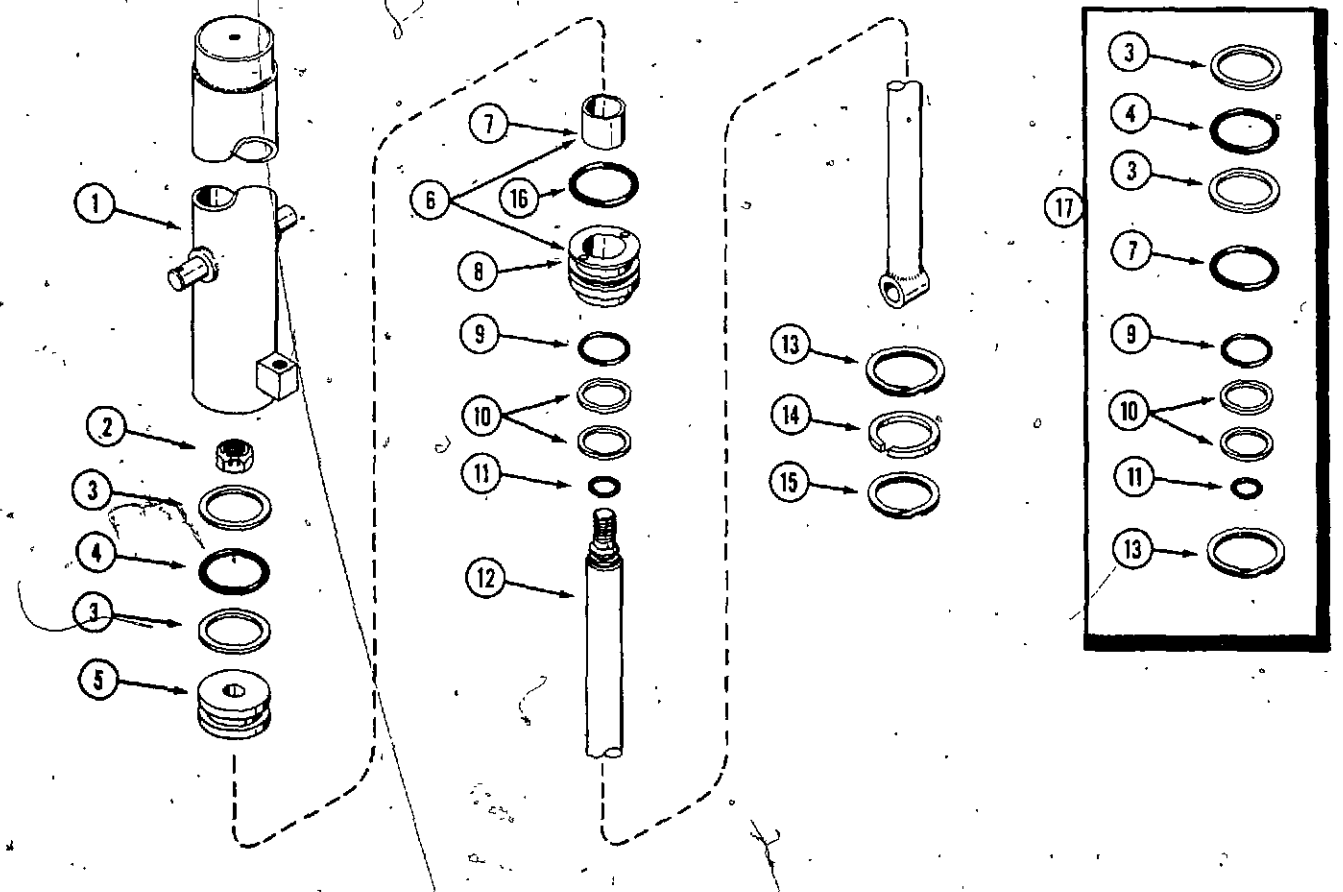
HYDRAULIC DRIVE MOTOR

REF.	PART NO.	DESCRIPTION	REQ'D
	C 14655	MOTOR - hydraulic	1
1	C 16516	RING - retaining	1
2	NSS	SPACER - (see kit below)	1
3	NSS	SEAL - oil (see kit below)	1
4	C 14827	HOUSING ASSEMBLY	1
5	C 14837	END CAP	1
6	NSS	SEAL - (see kit below)	1
7	C 14828	SHAFT - coupling	2
8	C 14829	DRIVE LINK	1
9	C 14830	PLATE - wear	1
10	C 14831	ROTOR ASSEMBLY	1
	C 24731	KIT - manifold (used motor code 127-7 and after)	1
11	C 14832	PLATE - manifold (used prior to motor code 127-7)	1
12	D 59700	MANIFOLD - (used prior to motor code 127-7)	1
13	C 14834	COMMUTATOR AND RING SET - (used prior to motor code 127-7)	1
13	D 60857	COMMUTATOR AND RING SET - (used motor code 127-7 and after)	1
14	NSS	RING - sealing (see kit below)	1
15	C 14836	SLEEVE	1
16	C 14838	BOLT - 3/8" x 4-3/8" NF hex	7
17	NSS	WASHER - back up, .010" (see kit below)	1
	C 19037	KIT - "O" ring and seal	1
	NSS	RING - sealing	1
	NSS	SEAL - dirt (not used - throw away item)	1
	NSS	SEAL	2
	NSS	SEAL	1
	NSS	RING - retaining	1
	NSS	SPACER - seal	1
	NSS	WASHER - back up, .010"	1



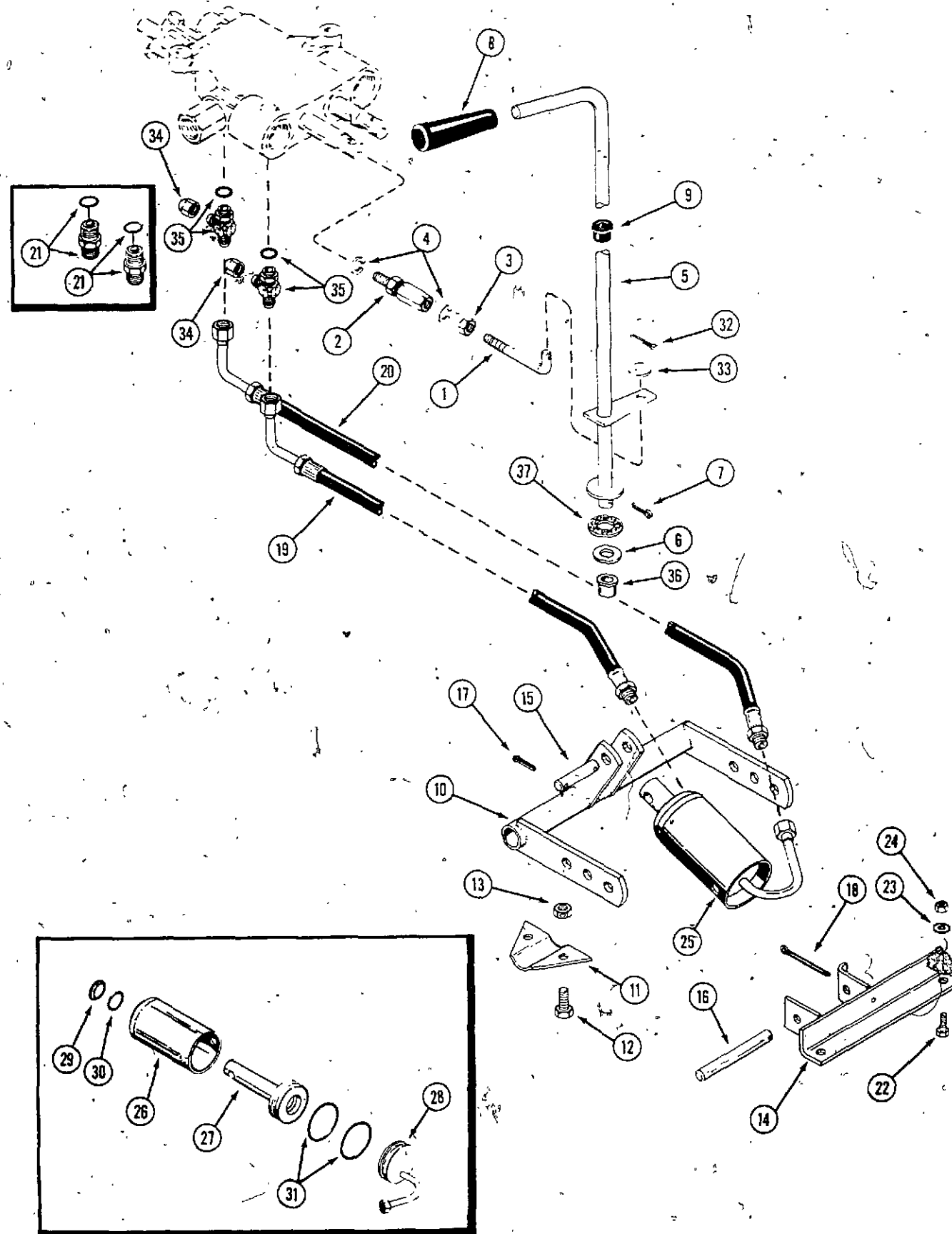
CYLINDER - LIFT ARM

REF.	PART NO.	DESCRIPTION	REQ'D
	C 11527	CYLINDER - lift arm	1
1	T 24080	RING - retaining	1
2	T 24081	SPACER	1
3	NSS	RING - retaining	1
4	C 18575	ROD - cylinder	1
5	NSS	SEAL - "O" ring, rod	1
6	NSS	WIPER - rod	1
7	NSS	SEAL - "O" ring, rod	2
8	T 42253	HEAD - cylinder	1
9	NSS	SEAL - head	1
10	T 42254	BUSHING - head	1
11	T 24084	PISTON - cylinder	1
12	NSS	WASHER - backup, piston	2
13	NSS	SEAL - "O" ring, piston	1
14	25- 159	NUT - jam	1
15	C 18576	BODY - cylinder	1
16	T 41499	KIT - seal	1



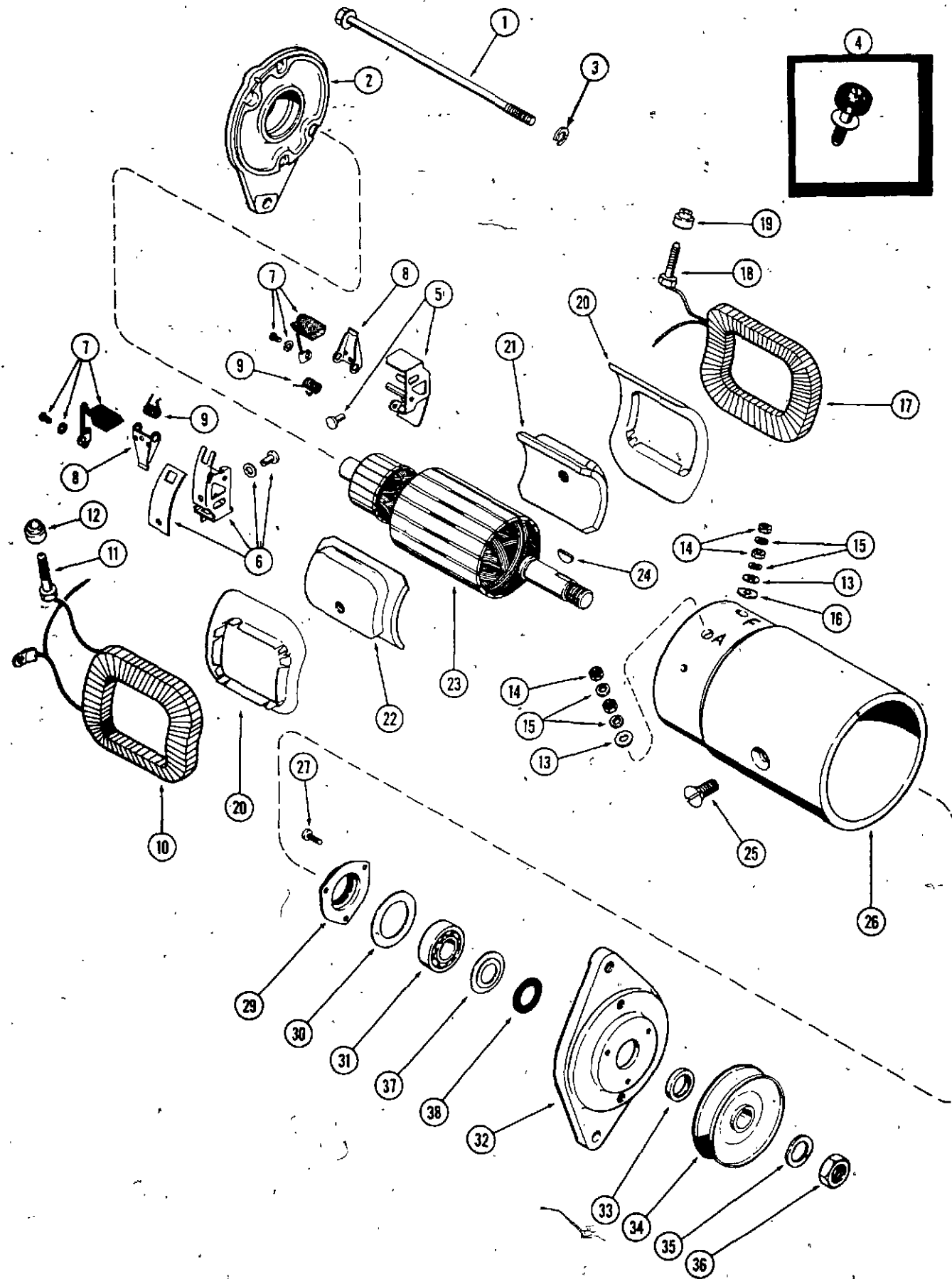
CYLINDER - BUCKET

	C 11528	CYLINDER - bucket	1
1	C 18573	BODY - cylinder	1
2	131- 677	NUT - jam	1
3	NSS	WASHER - backup, piston	2
4	NSS	SEAL - "O" ring, piston	1
5	D 54909	PISTON - cylinder	1
6	C 18486	HEAD ASSEMBLY	1
7	NSS	BUSHING - head	1
8	NSS	HEAD - cylinder	1
9	NSS	SEAL - "O" ring, rod	1
10	NSS	WASHER - backup	2
11	NSS	SEAL - "O" ring, rod	1
12	C 18572	ROD - cylinder	1
13	NSS	RING - retaining	1
14	D 54915	SPACER	1
15	D 54917	RING - retaining	1
16	NSS	SEAL - "O" ring, head	1
17	C 18574	KIT - seal	1



HYDRAULIC LIFT

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 19384	ROD - lift control	1
2	C 19025	BALL JOINT	1
3	129- 122	NUT - 5/16" NF hex.	1
4	192- 20	LOCKWASHER - 5/16"	4
5	C 17566	LEVER - lift control	2
6	195- 541	WASHER - 5/8"	1
7	132- 310	PIN - cotter 1/8" x 1"	4
8	A 37247	KNOB - lift lever	1
9	C 12093	BUSHING - flip lock	1
10	C 17585	CROSS SHAFT ASSEMBLY	1
11	C 17250	BRACKET - clamp	1
12	113- 207	BOLT - 3/8" x 1" NC,hex	2
13	131- 1181	NUT - lock 3/8" NC hex	4
14	C 17579	BRACKET - cylinder mounting	4
15	C 18251	PIN - cylinder mounting, rod end	1
16	C 17536	PIN - cylinder mounting, foot end	1
17	132- 310	PIN - cotter 1/8" x 1"	1
18	132- 361	PIN - cotter 3/16" x 2-1/2"	2
19	C 18154	HOSE - valve to cylinder, short	1
20	C 18155	HOSE - valve to cylinder, long	1
21	218- 5056	FITTING - valve (includes 218-5004 "O" ring) 644 and 644BH (used prior to S/N 9718424)	1
21	218- 5056	FITTING - valve (includes 218-5004 "O" Ring) 646 and 646BH (used prior to S/N 9718930)	2
22	113- 207	BOLT - 3/8" x 1" NC hex	2
23	195- 525	WASHER - 3/8"	2
24	131- 1181	NUT - lock 3/8" NC hex	2
25	C 19475	CYLINDER - hydraulic lift	2
26	C 19479	BODY - cylinder	1
27	C 19104	ROD AND PISTON ASSEMBLY	1
28	C 17732	FOOT - cylinder	1
29	NSS	SEAL	1
30	NSS	"O" RING	1
31	NSS	"O" RING	1
C	17268	KIT - SEAL, cylinder (consists of items 29, 30 and 31)	2
32	132- 320	PIN - cotter 3/32" x 3/4"	1
33	195- 518	WASHER - 1/4"	1
34	218- 753	CAP - 37° flare 644 and 644BH (used S/N 9718424 and after)	1
34	218- 753	CAP - 37° flare 646 and 646BH (used S/N 9718930 and after)	2
35	218- 5291	FITTING - valve, tee (includes 218-5004 "O" Ring) 644 and 644BH (used S/N 9718424 and after)	2
35	218- 5291	FITTING - valve, tee (includes 218-5004 "O" Ring) 646 and 646BH (used S/N 9718930 and after)	2
36	C 12127	BUSHING - nylon	2
37	C 17551	DISC - friction	1

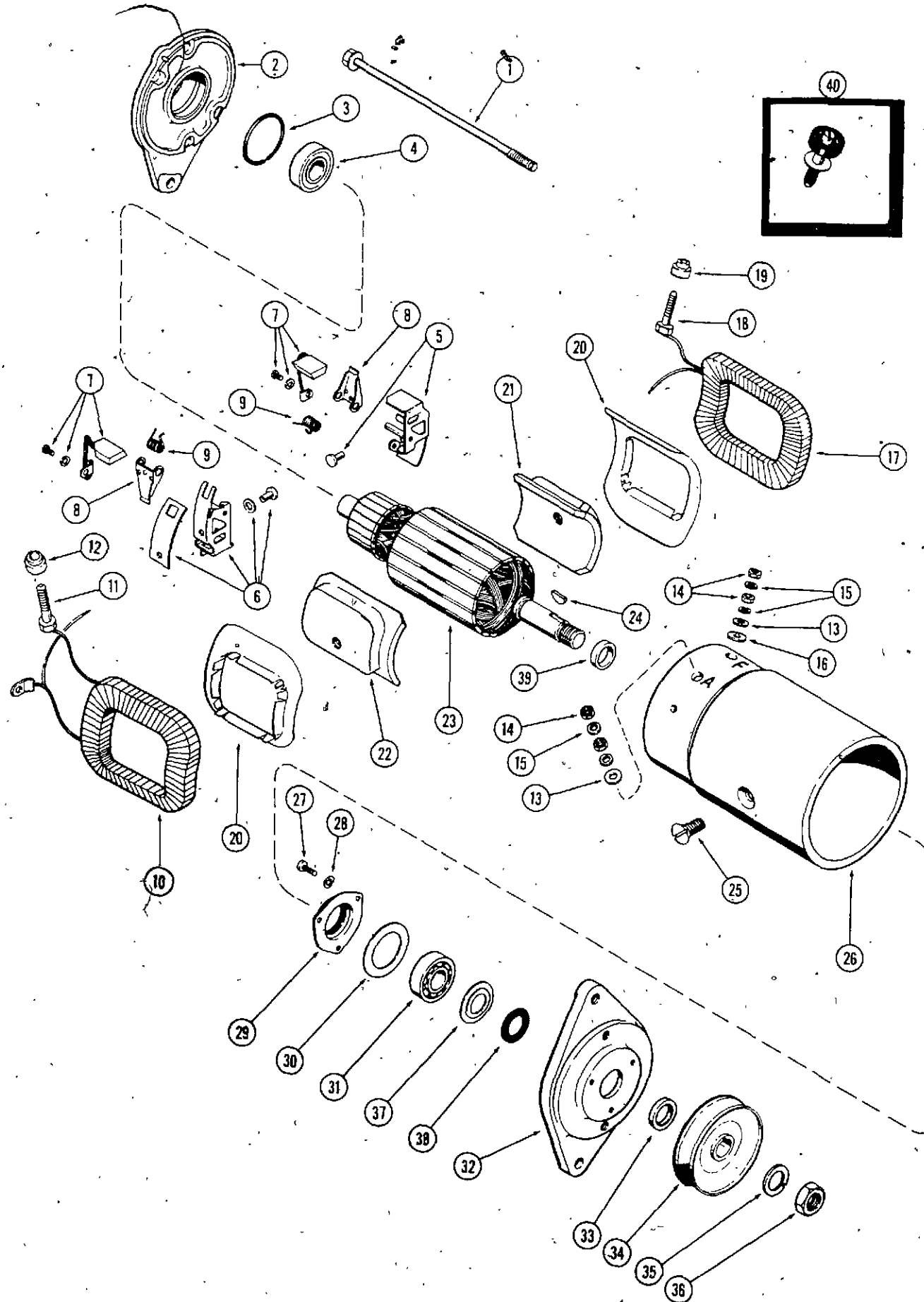


C16852 STARTER-GENERATOR (644 AND 644BH)
(DELCO NUMBER 1101875)
 (Use A 70202 for Service)

REF.	PART NO.	DESCRIPTION	REQ'D
1	R 15106	BOLT - through	2
2	A 43494	FRAME ASSEMBLY - commutator end	1
3	192- 20	LOCKWASHER - 5/16"	2
4	A 40702	KIT -stud (includes items 16, 18 and 19)	1
5	A 72039	HOLDER KIT - ground brush	1
6	A 72040	HOLDER KIT - insulated brush	1
7	A 72038	BRUSH ASSEMBLY	2
8	R 15090	ARM - brush pressure	2
9	R 16161	SPRING - brush arm	2
10	A 72043	COIL ASSEMBLY - field R.H.	1
11	A 72048	STUD - armature terminal	1
12	R 16147	BUSHING - insulated armature stud	1
13	A 41927	WASHER - armature stud	2
14	129- 18	NUT - terminal stud 12-24 hex	4
14	192- 17	LOCKWASHER - terminal stud #12	4
16	R 16148	WASHER - insulated, field stud (order A 40702)	1
17	A 72042	COIL ASSEMBLY - field L.H.	1
18	NSS	STUD - field terminal (order A 40702)	1
19	NSS	BUSHING - insulated, field stud (order A 40702)	1
20	A 25447	INSULATOR - field coil	2
21	A 40736	SHOE - pole	1
22	A 40736	SHOE - pole	1
23	A 43495	ARMATURE	1
24	126- 111	KEY - woodruff, armature	1
25	A 42127	SCREW - pole	2
26	NSS	BODY - starter, generator (order A 70202 starter)	1
27	A 41959	SCREW - 10-32 x 1/2" round head	3
29	A 44433	RETAINER ASSEMBLY -	1
* 30	NSS	GASKET - bearing retainer (order A44433)	1
31	A 43356	BEARING - ball drive end	1
32	A 72046	FRAME ASSEMBLY - drive end	1
33	A 72047	SPACER - pulley	1
34	C 14344	PULLEY - starter, generator drive	1
35	192- 116	LOCKWASHER - 11/16" plated	1
36	A 25546	NUT - armature shaft, drive end	1
37	A 43499	RETAINER -	1
* 38	NSS	SEAL - felt (order A 44433)	1

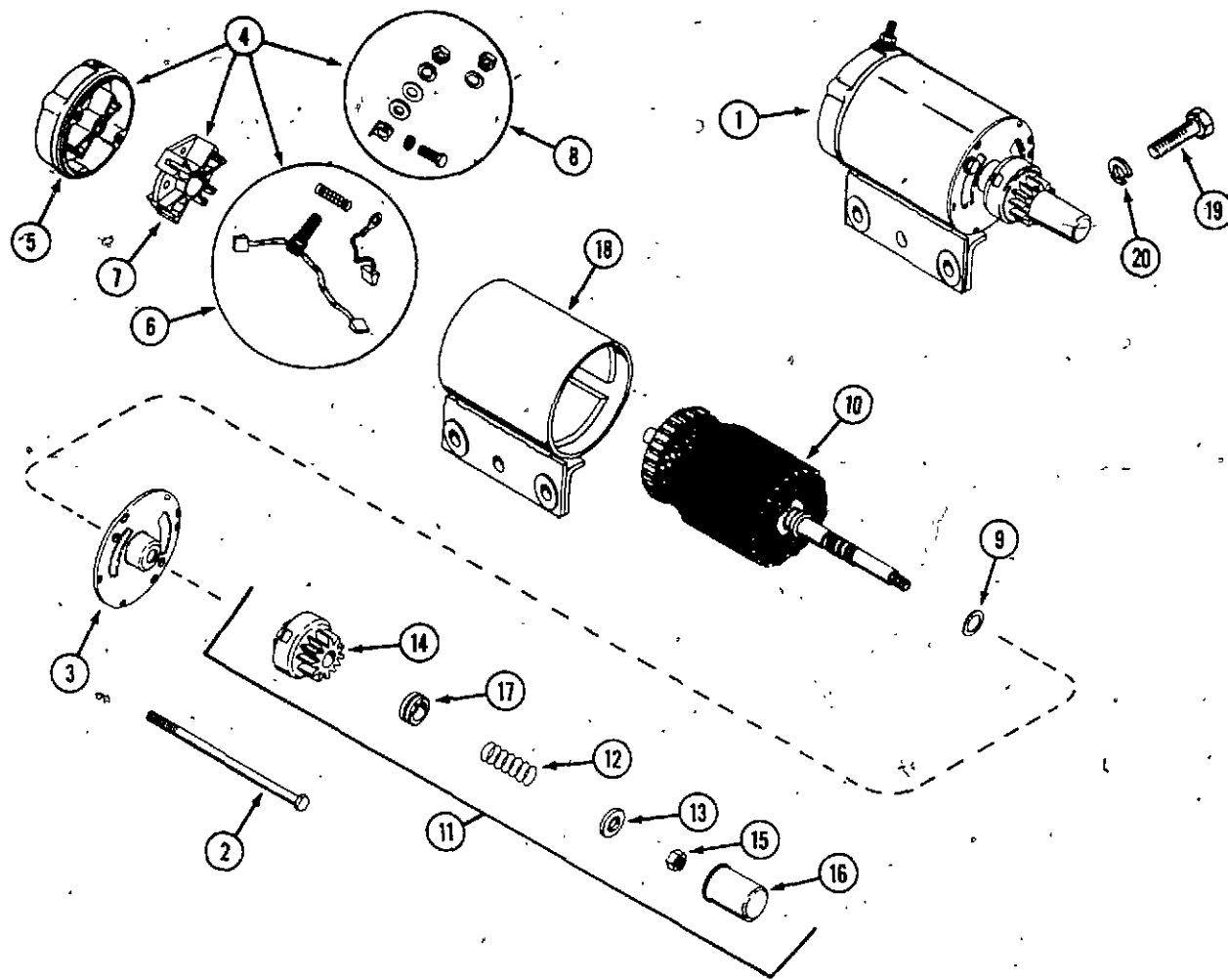
* Retainer gasket and felt seal not required, Service with retainer assembly (item 29).

**A 70202 STARTER-GENERATOR (644 AND 646BH)
(DELCO NUMBER 1101970)**



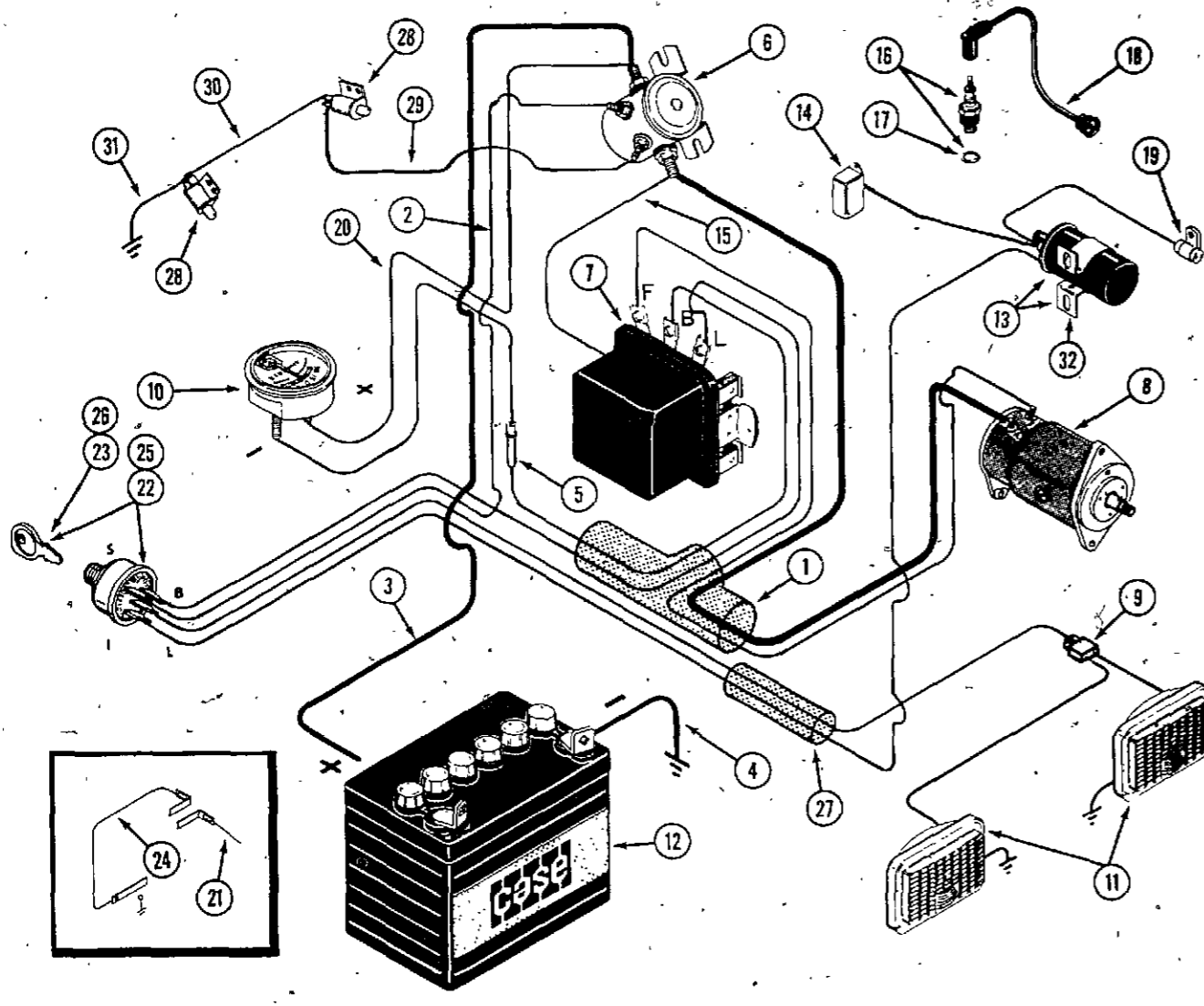
REF.	PART NO.	DESCRIPTION	REQ'D
1	R 15106	BOLT - through (includes washer)	2
2	A 72104	FRAME ASSEMBLY - commutator end	1
3	R 15087	RING - bearing retainer	1
4	A 25461	BEARING - commutator end ball	1
5	A 72039	HOLDER KIT - ground brush	1
6	A 72040	HOLDER KIT - insulated brush	1
7	A 72038	BRUSH ASSEMBLY	2
8	R 15090	ARM - brush pressure	2
9	R 16161	SPRING - brush arm	2
10	A 72043	COIL ASSEMBLY - field R.H.	1
11	A 72048	STUD - armature terminal	1
12	R 16147	BUSHING - insulated, armature stud	1
13	A 41927	WASHER - armature stud	2
14	129- 18	NUT - terminal stud 12-24 hex	4
15	192- 17	LOCKWASHER - terminal stud #12	4
16	NSS	WASHER - insulated, field stud (order A40702)	1
17	A 72042	COIL ASSEMBLY - field L.H.	1
18	NSS	STUD - field terminal (see Ref. 40)	1
19	NSS	BUSHING - insulated, field stud (Order A 40702)	1
20	A 25447	INSULATOR - field coil	2
21	A 40736	SHOE - pole, plain	1
22	A 40736	SHOE - pole, notched	1
23	A 72041	ARMATURE	1
24	126- 111	KEY - Woodruff, armature	1
25	74- 610	SCREW - pole	2
26	NSS	BODY - starter, generator (Order A 70202)	1
27	173- 237	SCREW - 10-32 x 1/2" Rd. Hd.	3
28	192- 18	LOCKWASHER - 3/16" plated	3
29	A 44433	RETAINER ASSEMBLY - bearing	1
30	NSS	GASKET - bearing retainer (Order A 44433)	1
31	A 43356	BEARING - ball, drive end	1
32	A 72046	FRAME ASSEMBLY - drive end	1
33	A 72047	SPACER - pulley	1
34	C 14344	PULLEY - starter, generator drive	1
35	192- 26	LOCKWASHER - 11/16" plated	1
36	A 25546	NUT - armature shaft, drive end	1
37	A 43499	RETAINER - grease	1
38	NSS	SEAL - felt (Order A 44433)	1
39	NSS	SPACER - armature shaft, inner	1
40	A 40702	KIT - stud (Includes items 16, 18 and 19)	1

* Retainer gasket and felt seal not required.
Service with retainer assembly (item 29).



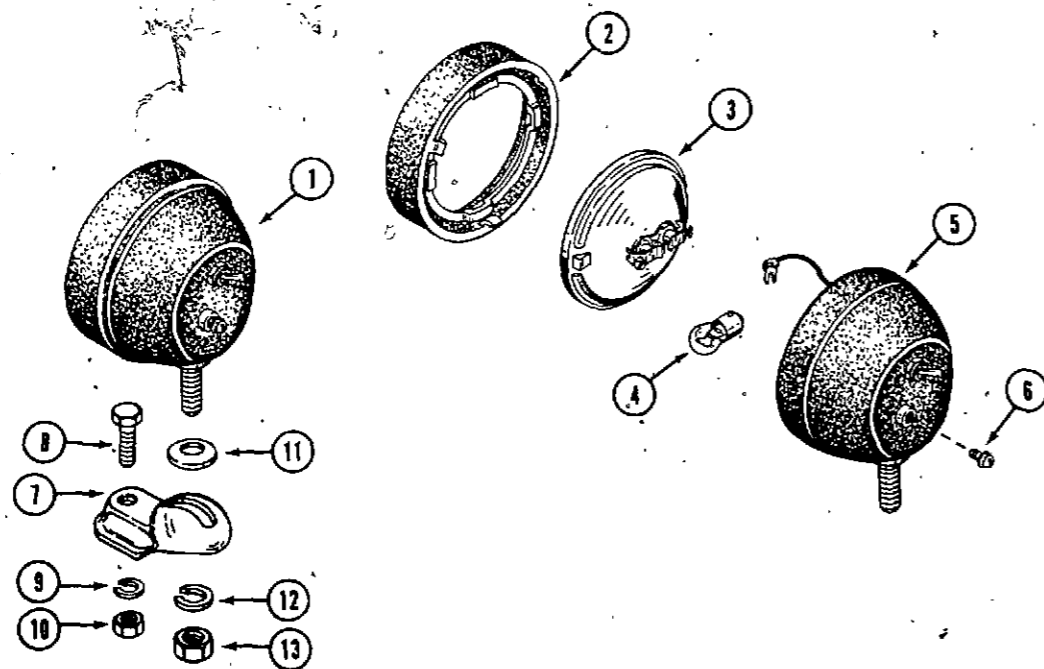
STARTER (644)
(USED S/N 9744750, AND AFTER)

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 24889	STARTER ASSEMBLY	1
2	V 34381	BOLT - thru	2
3	V 34392	CAP - end	1
4	V 34384	KIT - commutator cap	1
5	NSS	CAP - commutator	1
6	V 34383	KIT - brush and spring	1
7	V 34830	KIT - brush holder	1
8	V 34885	KIT - hardware	1
9	V 34382	WASHER - armature thrust	1
10	C 24890	ARMATURE	1
11	C 24891	KIT - drive	1
12	V 34386	SPRING - anti-drift	1
13	V 34387	SPACER - gear stop	1
14	NSS	GEAR - drive	1
15	V 34388	NUT - gear stop	1
16	C 24892	COVER - dust	1
17	V 34391	SPACER - dust cover	1
18	NSS	BODY - starter	1
19	C 24886	BOLT - shoulder 3/8" - 20 x 1-5/16"	2
20	192- 21	LOCKWASHER - 3/8"	2
	321- 1834	DECAL - alternator electrical system	1
	C 24880	DECAL - "DO NOT STRIKE"	1



ELECTRICAL SYSTEM — 644 AND 644BH
(USED PRIOR TO S/N 9744750)

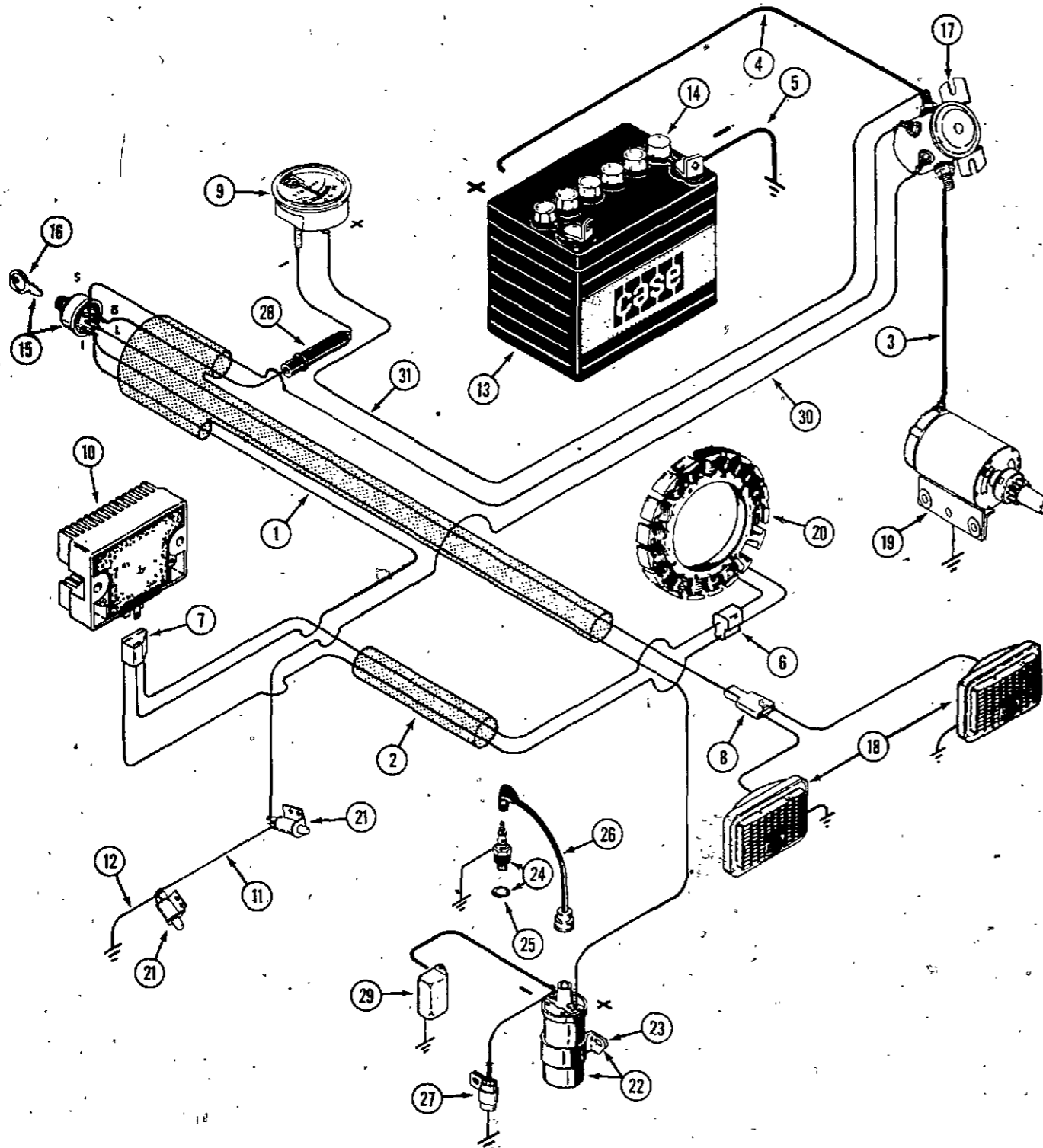
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 24228	HARNESS - wire (also order C 23025 for early production)	1
2	C 17187	WIRE - ignition switch to solenoid (yellow 8")	1
3	C 14565	CABLE - battery positive (red, 10-1/2")	1
4	G 18267	CABLE - battery ground (black 16")	1
5	223- 20	FUSE - 20 amp.	1
6	C 14553	SOLENOID - start	1
7	C 24221	REGULATOR - voltage	1
8	C 16852	STARTER - generator 12 volt, DELCO No. 1101875 (repairs page 81)	1
8	A 70202	STARTER - generator 12 volt, DELCO No. 110970 (repairs page 83)	1
9	C 14537	CONNECTOR - headlamp	1
10	C 18389	GAUGE - ammeter	1
11	C 22571	HEADLAMP ASSEMBLY - 12 volt (repairs page 87)	1
12	C 18197	BATTERY - 12 volt	2
13	KO 231281	COIL - ignition 12 volt	1
14	V 34857	COVER - breaker contacts	1
15	C 17275	WIRE - regulator generator to solenoid (white 7")	1
16	C 24301	SPARK PLUG - (includes gasket)	1
17	A 27251	GASKET - spark plug	1
18	V 34433	CABLE - high tension	1
19	KO 230722	CONDENSER	1
20	C 18261	WIRE - amp. gauge to solenoid (orange 6")	1
21	C 19055	WIRE - solenoid to neutral start switch (black 6") (early production)	1
22	NSS	SWITCH - ignition (includes key) (C21595) see item 25	1
23	C 17763	KEY - ignition (for C21595 switch prior to S/N 9718432)	1
24	C 19055	WIRE - neutral start switch (black 21") (early production)	1
25	C 23839	KIT - switch, ignition (includes key) used prior to S/N 9718432	1
25	C 23010	SWITCH - ignition (includes key) used S/N 9718432 and after.	1
26	A 25409	KEY - ignition (for C23010 switch)	1
27	C 23025	HARNESS - wire	1
28	C 22765	SWITCH - neutral start	2
29	C 23328	WIRE - solenoid to neutral start switch (late production)	1
30	C 23327	WIRE - switch to switch (late production)	1
31	C 23448	WIRE - switch to ground (late production)	1
32	V 34435	BRACKET - ignition coil	1
	C 19521	CLIP - wire holder	1
	353- 407	PLUG - hole, dash	2
	C 23744	KIT - safety switch (use to replace strip switches)	1



D70115 FLOOD AND TAIL LAMP (OPTIONAL)
(or see page 89)

1	D 70115	LIGHT ASSEMBLY - flood and tail	1
2	A 25213	RETAINER - sealed beam	1
3	A 40855	LAMP - sealed beam #4409X	1
4	33686	BULB - tail #1141	1
5	NSS	SHELL - light (order D70115 light assembly)	1
6	193- 543	SCREW AND LOCKWASHER - #8 - 32 x 3/8" N.C.	1
7	A 34046	BRACKET - mounting	1
8	113- 209	BOLT - 3/8" x 1-1/2" N.C. hex	1
9	192- 21	LOCKWASHER - 3/8"	1
10	129- 103	NUT - 3/8" N.C. hex	1
11	10923	WASHER - bearing	1
12	192- 23	LOCKWASHER - 1/2"	1
13	129- 105	NUT - 1/2" N.C. hex.	1

ELECTRICAL SYSTEM - 644
(USED S/N 9744750 AND AFTER)



REF.	PART NO.	DESCRIPTION	REQ'D
1	C 24833	HARNES - wire	1
2	C 24815	HARNES - wire	1
3	C 24834	CABLE - solenoid to starter, (black)	1
4	C 14565	CABLE - solenoid to battery positive (red)	1
5	C 23029	CABLE - battery negative to ground (black)	1
6	C 24813	CONNECTOR - stator	1
7	C 19378	CONNECTOR - rectifier	1
8	C 14537	CONNECTOR - lights	1
9	C 18389	AMMETER - 30 amp 12v	1
10	C 21945	RECTIFIER - voltage, 12v	1
11	C 23327	WIRE - switch to switch (black)	1
12	C 23448	WIRE - switch to ground (black)	1
13	C 18197	BATTERY - 12v	1
14	C 18113	CAP - battery	1
15	C 23010	SWITCH ASSEMBLY - ignition (includes key and lockwasher only)	6
16	A 24509	KEY - ignition	1
17	C 14553	SOLENOID - start, 12v	1
18	C 22571	HEADLAMP ASSEMBLY - 12v (repairs page 87)	2
19	C 24889	STARTER - bendix drive (repairs page 83B)	1
20	V 34427	STATOR - 15 amp	1
21	C 22765	SWITCH - neutral start	1
22	KO 231281	COIL - ignition, 12v (includes bracket)	2
23	V 34435	BRACKET - coil mounting	1
24	C 24301	SPARK PLUG - resistor (includes gasket)	1
25	A 27251	GASKET - spark plug	1
26	V 34433	CABLE - high tension	1
27	KO 230722	CONDENSER	1
28	223- 30	FUSE - 30 amp (included in harness)	1
29	NSS	BREAKER CONTACT ASSEMBLY - ignition (repairs page 87)	1
30	C 23328	WIRE - solenoid to neutral start switch (black)	1
31	C 18261	WIRE - ammeter positive to solenoid (black)	1

REVISION RECORD LOG

REVISION NO.	DATE INSERTED
1.	
2.	
3.	
4.	
5.	

**MODEL 644 AND 644BH S/N 9698284 & AFTER
MODEL 646 AND 646BH S/N 9698983 & AFTER
COMPACT WHEEL TRACTORS**

Parts Catalog No. B1302

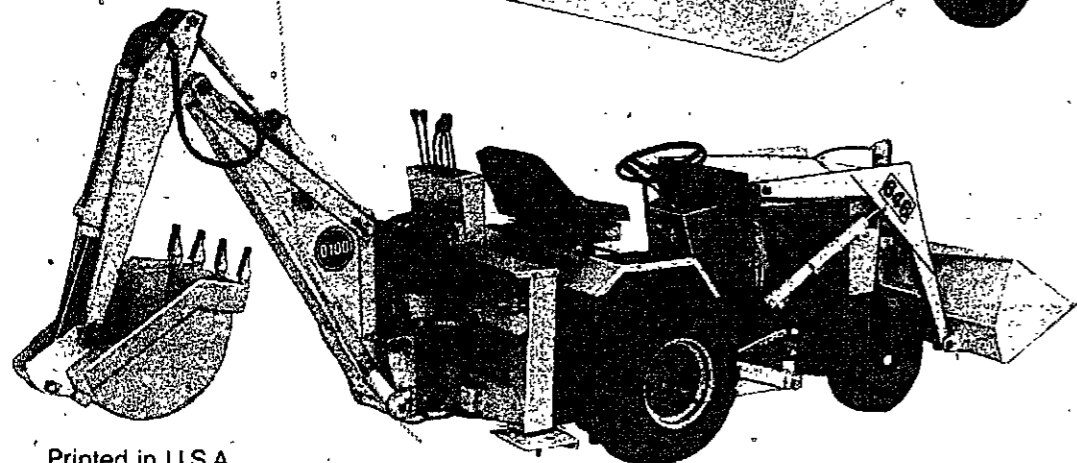
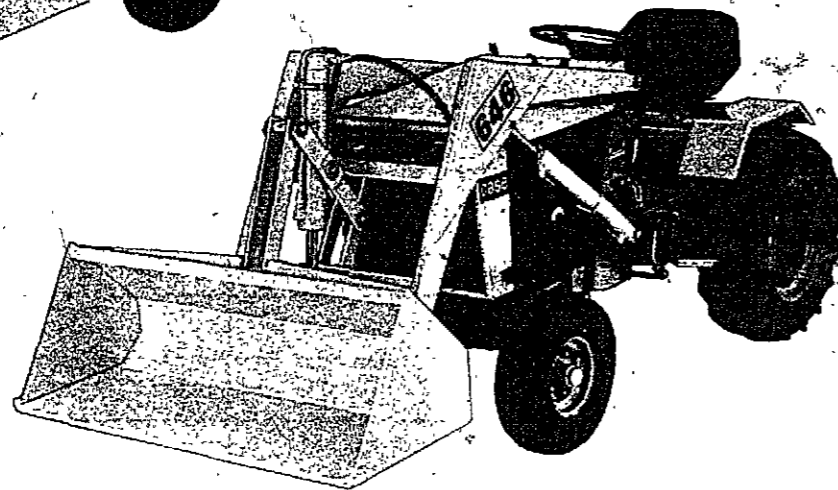
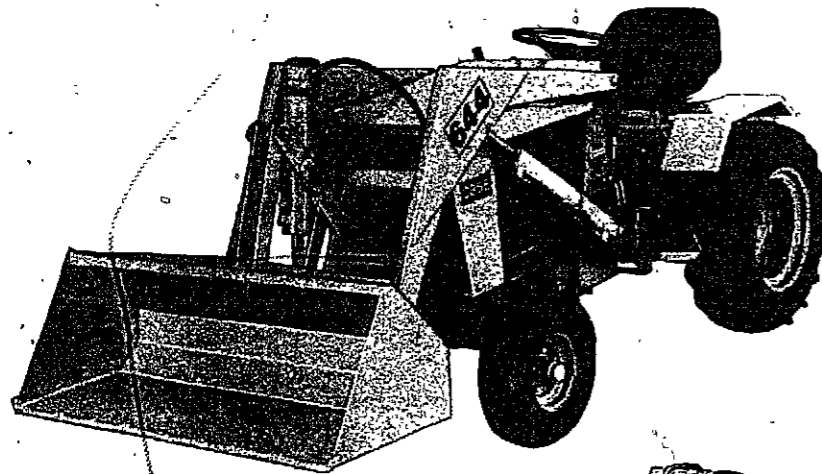
Part Publ 2500

Published December 1978

NOTE: This parts catalog replaces the previous issue, A1302, which is obsolete and should be discarded.

This catalog lists mounting parts for Series "B" backhoe.

For backhoe components see Parts Catalog 1275 covering the D-100 Backhoe.



J I Case
A Tenneco Company

Service Parts Supply

700 State Street
Racine, Wisconsin 53404

Printed in U.S.A.

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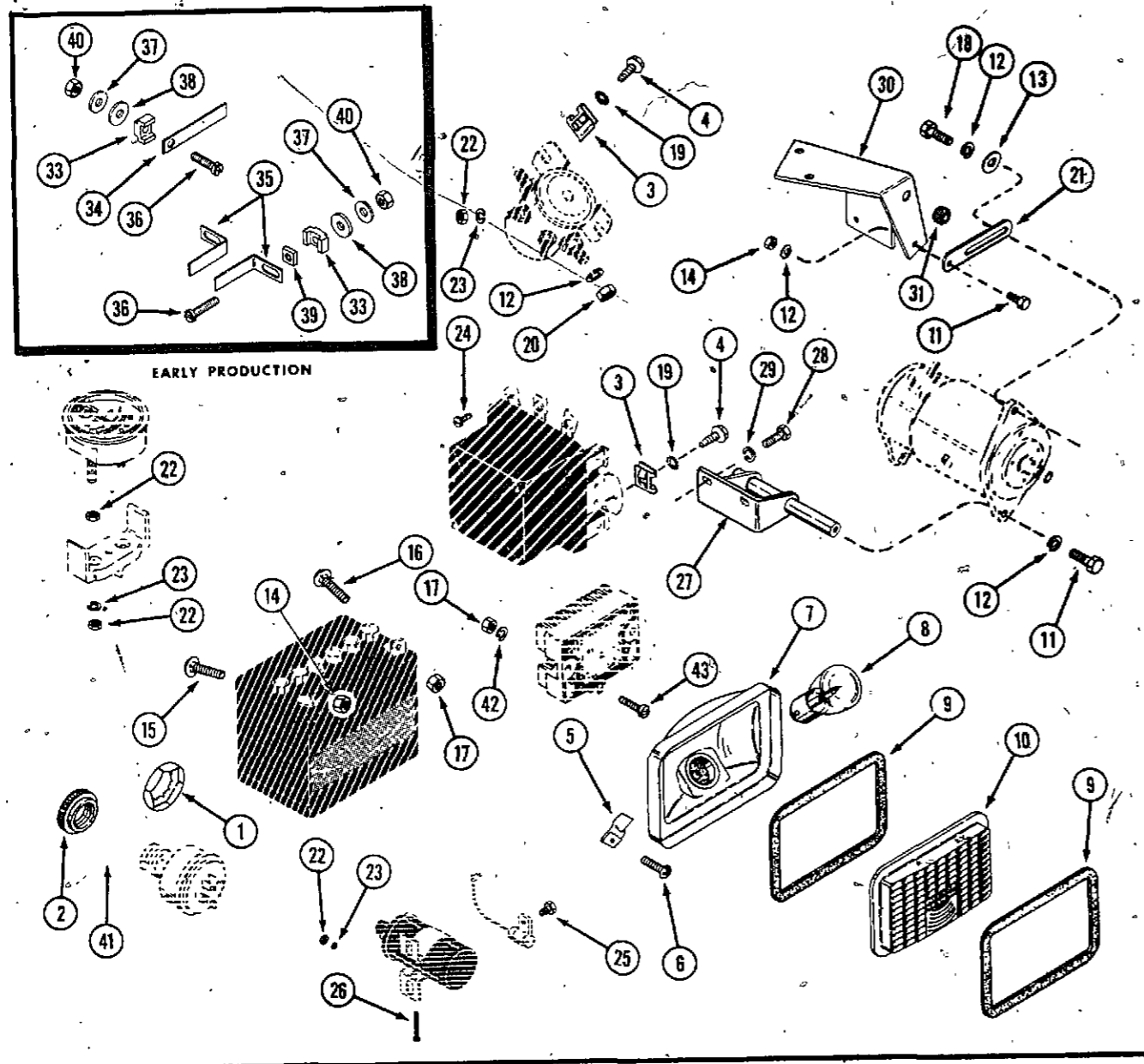
ONAN ENGINE SECTION

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* contained on microfiche 37

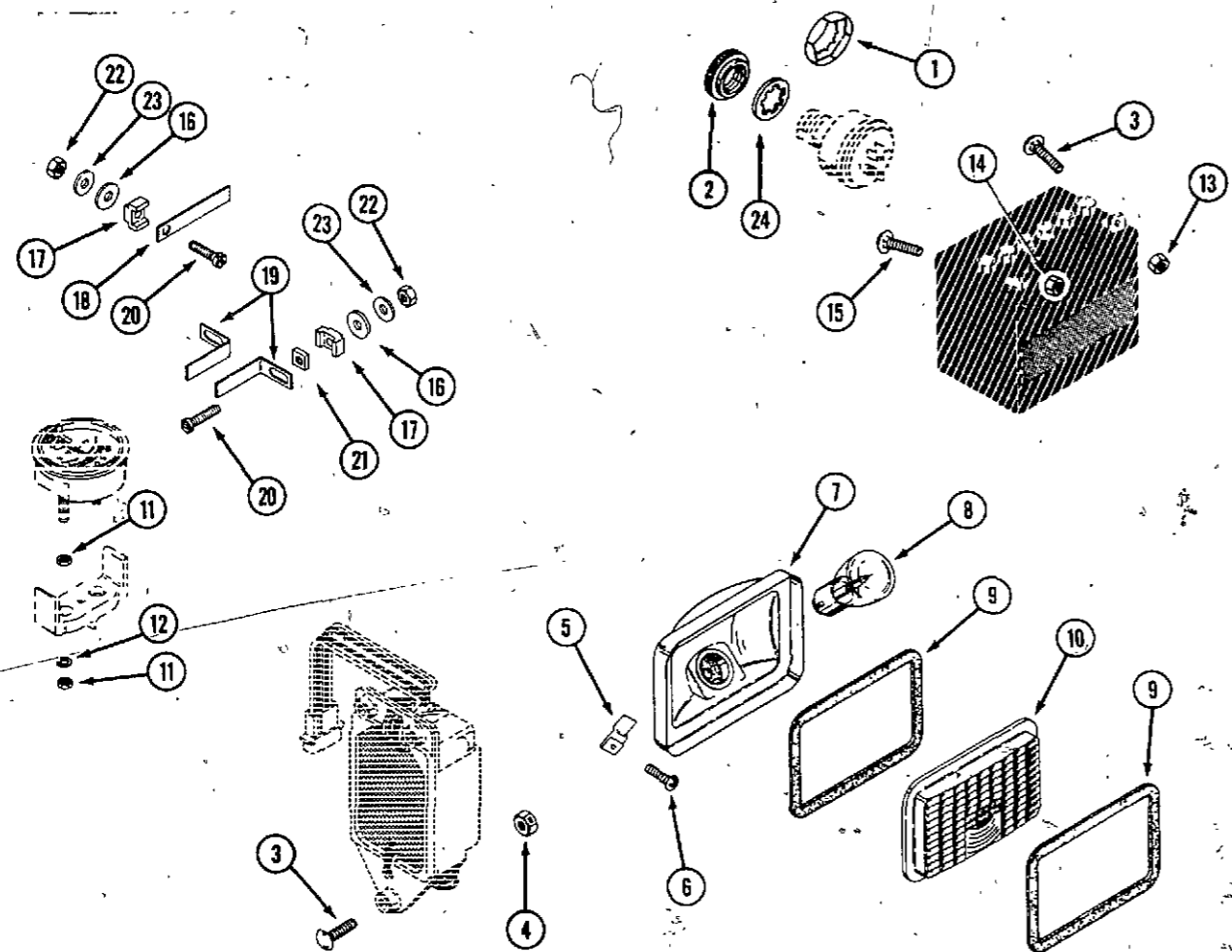


ELECTRICAL SYSTEM HARDWARE 644 AND 644BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 14060	NUT - back up 3/4" (used prior to S/N 9718432)	1
2	C 17921	NUT - escutcheon 3/4" (used prior to S/N 9718432)	1
2	C 23330	NUT - knurled (used S/N 9718432 and after)	1
3	C 10836	NUT - speed type "U"	4
4	187- 485	SCREW - #10 x 5/8" self-tapping hex	2
5	131- 629	NUT - speed type "U"	4
6	187- 1047	SCREW - #8 x 1/2" self-tapping round head, Phillips	4
	C 22571	HEADLAMP ASSEMBLY	2
7	NSS	RECEPTACLE - headlamp (order C 22571)	1
8	C 14305	BULB - headlamp	1
9	C 14304	GASKET - headlamp	2
10	C 22573	LENS - headlamp	1
11	113- 185	BOLT - 5/16" x 1" NC hex, zinc plated, grade 8 (used prior to S/N 9744750)	2
12	192- 20	LOCKWASHER - 5/16" zinc plated (used prior to S/N 9744750)	5
13	195- 520	WASHER - 5/16" plain, zinc plated (used prior to S/N 9744750)	2
14	129- 102	NUT - 5/16" NC hex zinc plated	2
15	111- 202	BOLT - 5/16" x 3/4", round head, NC square neck	1
16	111- 108	BOLT - 1/4" x 3/4" NC, round head, square-neck	1
17	129- 101	NUT - 1/4" NC hex	3
18	113- 102	BOLT - 5/16" x 3/4" NC, zinc plated (used prior to S/N 9744750)	1
19	193- 70	LOCKWASHER - #10 external tooth	2
20	129- 122	NUT - 5/16" NF hex	2
21	C 14599	BRACKET - starter generator adjust (used prior to S/N 9744750)	1
22	129- 27	NUT - #10 NF hex	6
23	192- 18	LOCKWASHER - #10	4
24	169- 131	SCREW - #8 x 5/16" NC fillister head (used prior to S/N 9744750)	3
25	113- 1	BOLT - 1/4" x 1/2" NC hex, zinc plated	2
26	187- 1844	SCREW - #10 x 1-1/2" NF self-tap	1
27	C 18788	SUPPORT - starter generator (used prior to S/N 9744750)	1
28	13- 612	BOLT - 3/8" x 3/4" NC hex (used prior to S/N 9744750)	2
29	192- 21	LOCKWASHER - 3/8" (used prior to S/N 9744750)	2
30	C 18999	SUPPORT - starter generator adjust (used prior to S/N 9744750)	1
31	C 17546	GROMMET - wire (used prior to S/N 9744750)	1
32	187- 130	SCREW - #10 x 5/8" self tapping	2
33	C 19246	HOLDER - strip switch	3
34	C 19258	STRIP-SWITCH	1
35	C 18115	STRIP-SWITCH - PTO	2
36	182- 523	SCREW - #10 x 7/8" binder head	3
37	195- 513	WASHER - #10	3
38	C 19254	WASHER - nylon 13/64"	3
39	129- 77	NUT - #10 NF Square	3
40	129- 37	NUT - #10 NF hex	3
41	C 23012	LOCKWASHER - (used S/N 9718432 and after)	1
42	192- 19	LOCKWASHER - 1/4" (used S/N 9744750 and after)	2
43	171- 250	SCREW - 1/4" - 20 x 3/4" (used S/N 9744750 and after)	2

BREAKER CONTACTS 644 and 644BH

1	NSS	LEAD - breaker contact (order from local supplier)	1
2	C 23870	ROD - breaker contact push	1
3	V 34421	SCREW - #10 x 3/8" round head, zinc plated	4
4	KO 275182	CLIP - wire	1
5	V 34857	COVER - breaker contact	1
6	KO 220174	GASKET - cover	1
7	187- 408	SCREW - #6 x 3/8" self-tapping	1
8	173- 224	SCREW - #8 x 1/4" round head NC	1
9	193- 5	LOCKWASHER - #8 internal tooth	1
10	C 24135	POINT SET - breaker assembly	1

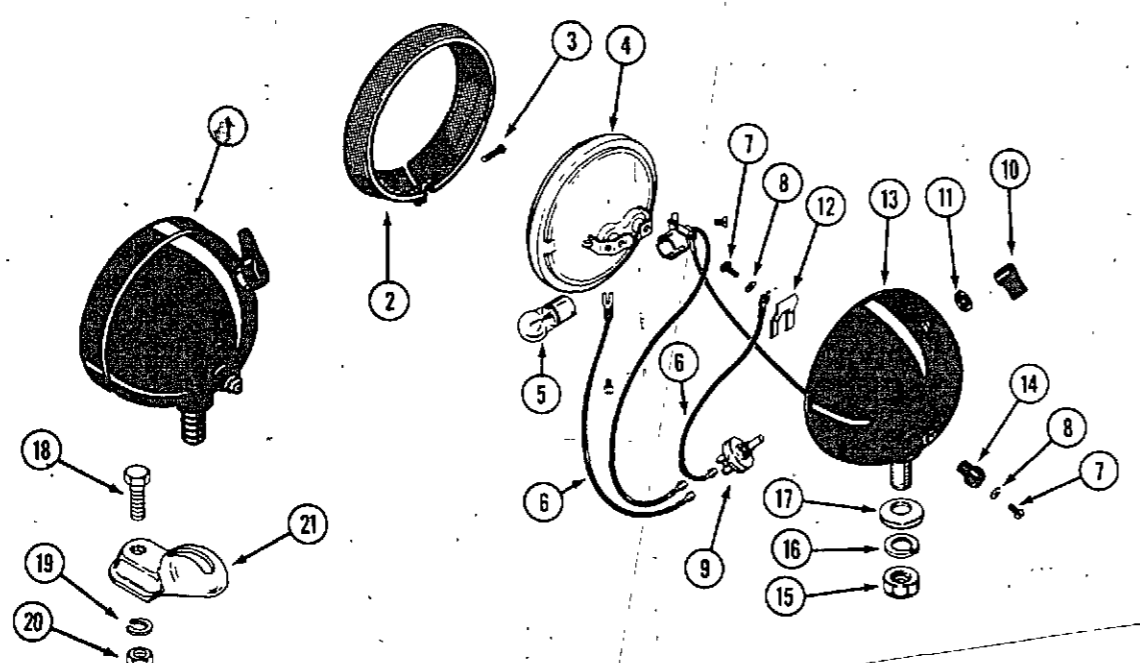


ELECTRICAL SYSTEM HARDWARE 646 AND 646BH

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 14060	NUT - back up 3/4" (used prior to S/N 9718951)	1
2	C 17921	NUT - esutcheon 3/4" (used prior to S/N 9718951)	1
2	C 23330	NUT - knurled (used S/N 9718951 and after)	1
3	111- 108	BOLT - 1/4" x 3/4" NC, round head, square neck	4
4	131- 1115	NUT - lock 1/4" NC	3
5	131- 629	NUT - speed type "U"	4
6	187- 1047	SCREW - #8 x 1/2" self-tapping round head, Phillips	4
	C 22571	HEADLAMP ASSEMBLY	2
7	NSS	RECEPTACLE - headlamp (order C 22571)	1
8	C 14305	BULB - headlamp	1
9	C 14304	GASKET - headlamp	2
10	C 22573	LENS - headlamp	1
11	129- 127	NUT - #10 NF hex	4
12	192- 18	LOCKWASHER - #10	2
13	129- 101	NUT - 1/4" NC hex	1
14	129- 102	NUT - 5/16" NC hex, zinc plated	1
15	111- 202	BOLT - 5/16" x 3/4" NC, round head, square neck	1
16	C 19254	WASHER - nylon 13/64"	3
17	C 19246	HOLDER - strip switch	3
18	C 19258	STRIP SWITCH	1
19	C 18115	STRIP SWITCH, PTO	2
20	182- 523	SCREW - #10 x 7/8" binder head	3
21	129- 77	NUT - #10 NF Square	3
22	129- 37	NUT - #10 NF hex	3
23	195- 513	WASHER - #10	3
24	C 23012	LOCKWASHER - (used S/N 9718951 and after)	1

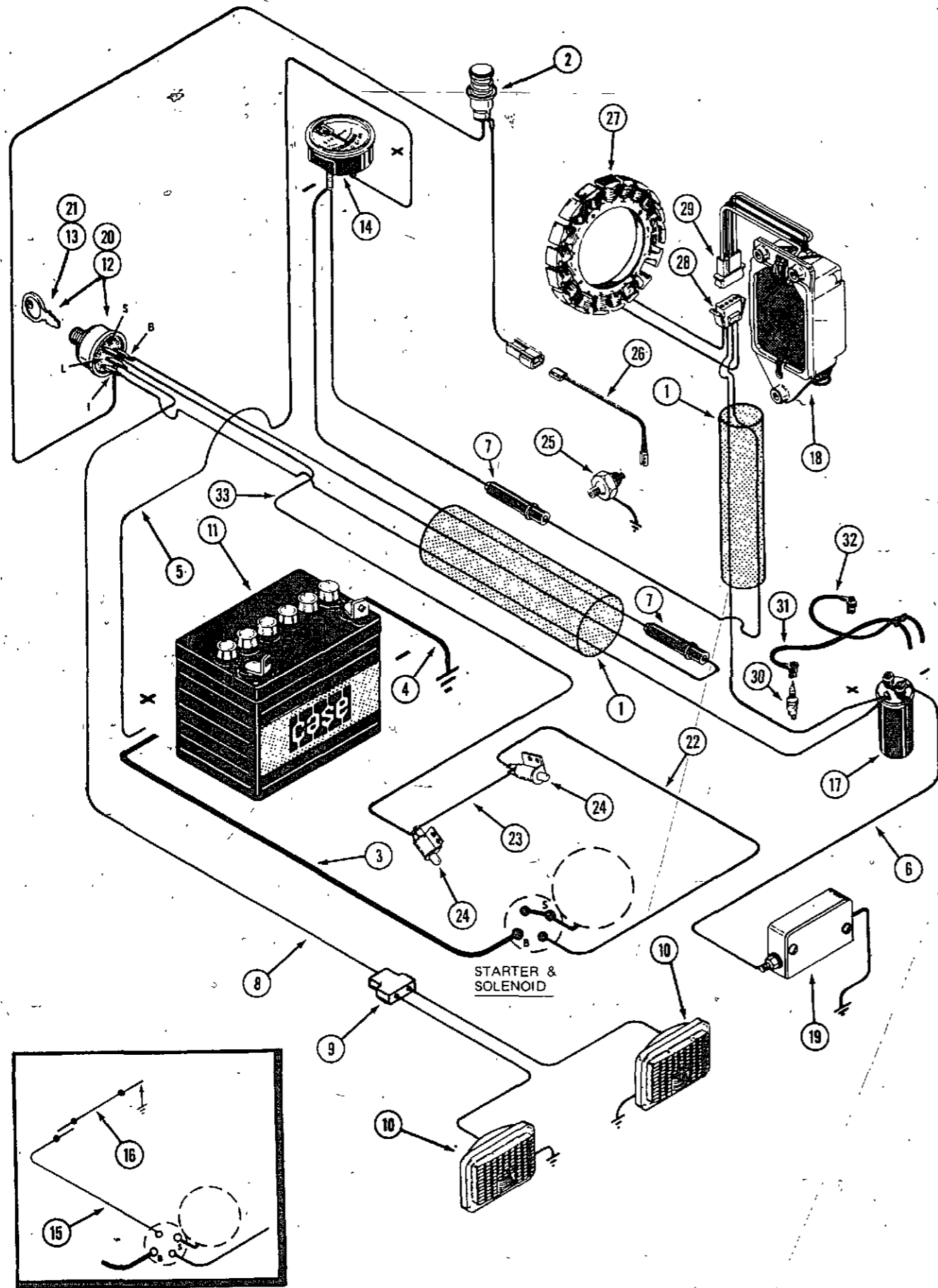
TAIL LAMP (Optional)

also see page 85

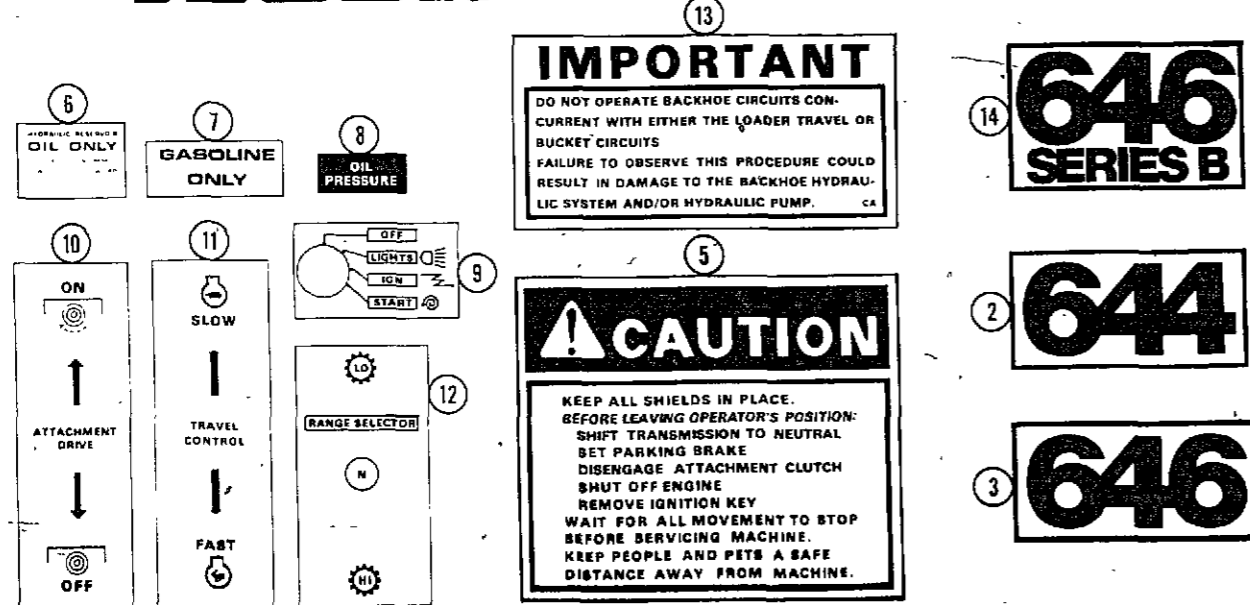
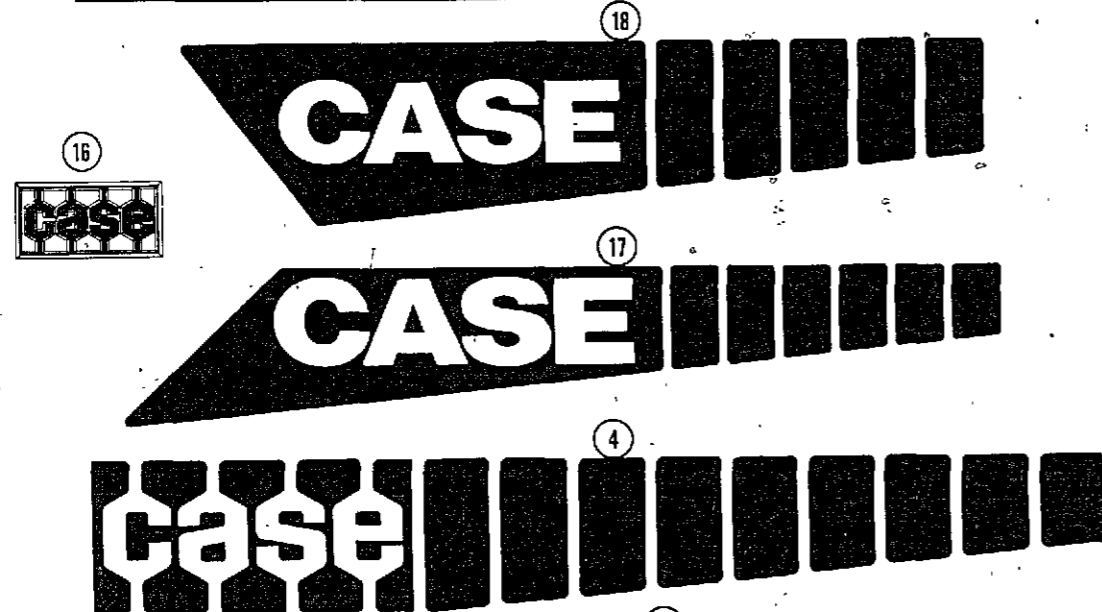
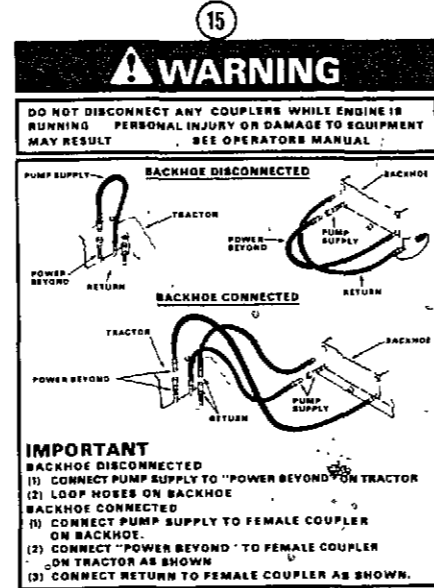
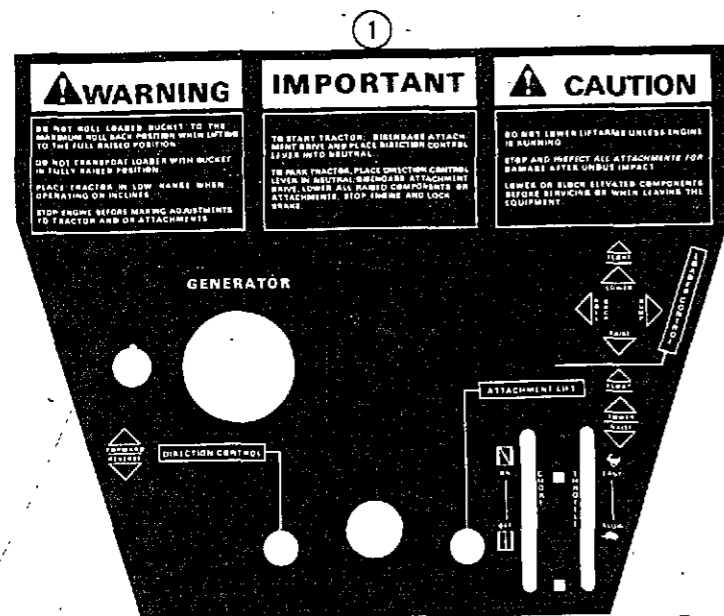


1	NSS	LAMP ASSEMBLY - flood and tail (order D70115)	1
2	B 50255	MOLDING - lamp retaining	1
3	10934	SCREW - molding	1
4	A 40855	LAMP - sealed unit	1
5	B 50223	BULB - red 15 C.P. 12 volt	1
6	B 50273	WIRE - switch	2
7	173- 73	SCREW - wire	2
8	193- 4	WASHER - 1/4" lock	2
9	NSS	SWITCH - (see kit below)	1
10	NSS	KNOB - switch (see kit below)	1
11	A 39888	NUT - switch	1
12	10927	SPRING - terminal	1
13	NSS	BODY	1
14	B 50293	TERMINAL - wire	1
15	129- 105	NUT - 1/2" NC hex	1
16	192- 23	WASHER - 1/2" lock	1
17	10923	WASHER - bearing	1
18	113- 209	BOLT - 3/8" x 1-1/2" hex, zinc plated	1
19	192- 21	LOCKWASHER - 3/8" zinc plated	1
20	129- 103	NUT - 3/8" NC hex, zinc plated	1
21	A 34046	BRACKET - mounting, tail lamp	1
	A 43182	KIT - switch, includes knob	1

ELECTRICAL SYSTEM - 646 AND 646BH



REF.	PART NO.	DESCRIPTION	REQ'D
1	C 21655	HARNESS - wire (early production)	1
2	C 18283	LAMP ASSEMBLY - oil indicator (includes wires and connector)	1
	B 50213	BULB - oil indicator, 12 volt (red)	1
3	C 18266	CABLE - battery positive (red 27")	1
4	C 14566	CABLE - battery ground (black 12")	1
5	C 18268	WIRE - battery positive to ammeter (white 14-1/2")	1
6	C 22368	WIRE - coil to breaker contacts	1
7	223- 31	FUSE - 30 amp	1
8	C 18270	WIRE - ignition to lights (pink 44")	2
9	C 14537	CONNECTOR - headlamp	1
10	C 22571	HEADLAMP - 12 volt	1
11	C 18197	BATTERY - 12 volt	2
12	NSS	SWITCH - ignition (includes key) (see item 20) C21595	1
13	C 17763	KEY - ignition (for C21595 switch prior to S/N 9718951)	1
14	C 18389	GAUGE - ammeter	1
15	C 18203	WIRE - solenoid to neutral start switch (early production)	1
16	C 19055	WIRE - neutral start switch to PTO switch (early production)	1
17	C 20349	COIL - ignition (see page 21)	1
18	C 20592	REGULATOR, RECTIFIER ASSEMBLY	1
19	C 20514	BOX ASSEMBLY - breaker contacts (see page 21)	1
20	C 23839	KIT - switch, ignition (includes key) used prior to S/N 9718951	1
20	C 23010	SWITCH - ignition (includes key) used S/N 9718951 and after	1
21	A 24509	KEY - ignition (for C23010 switch)	1
22	C 23327	WIRE - solenoid to switch (late production)	1
23	C 23327	WIRE - switch to switch (late production)	1
24	C 22765	SWITCH - neutral start (late production)	1
25	C 20568	SWITCH - oil indicator	2
26	C 22366	WIRE - connector to oil indicator switch	1
27	C 22391	STATOR ASSEMBLY	1
28	C 20596	CONNECTOR - socket	1
29	C 20604	CONNECTOR - plug, regulator	1
30	C 24308	SPARK PLUG	1
31	C 24306	CABLE - spark plug (17")	2
32	C 24307	CABLE - spark plug (10")	1
33	C 24683	WIRE - ignition to neutral start switch	1
	C 23744	KIT - safety switch (used to replace strip switches)	1
	A 62079	CLIP - fuse holder	2
214-	1102	CLIP - wire, grille	2
	C 19521	CLIP - wire holder	1



DECALS (English)

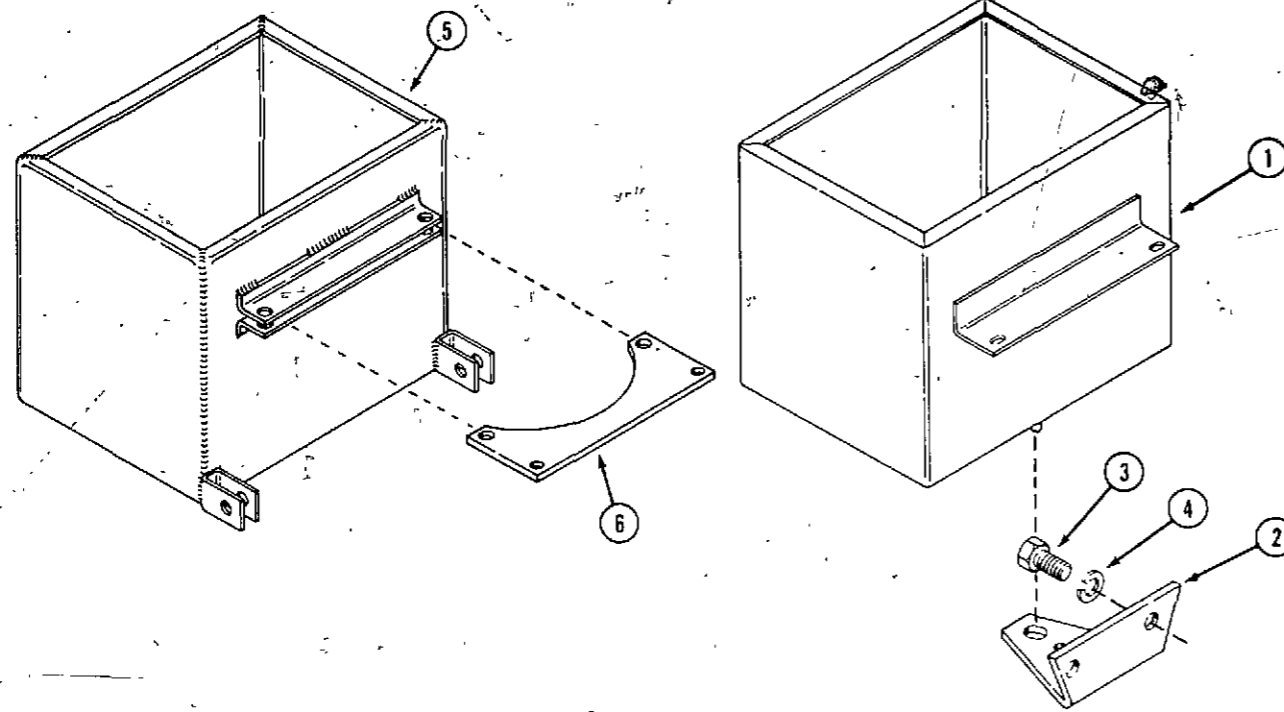
REF.	PART NO.	DESCRIPTION	REQ'D
1	321- 2935	DECAL - instrument panel	1
2	321- 3251	DECAL - (644)	2
3	321- 3250	DECAL - (646)	2
3	321- 3250	DECAL - model (646BH) used prior to S/N 9732040	2
4	321- 3249	DECAL - "Case" tread L. H. (shown) (used prior to - 646, 646BH S/N 9758352 - 644 S/N 9757934)	1
4	321- 3248	DECAL - "Case" tread R.H. (used prior to - 646, 646BH S/N 9758352 - 644 S/N 9757934)	1
5	321- 3256	DECAL - caution	1
6	C 14539	DECAL - oil, hydraulic reservoir	1
7	321- 18	DECAL - gasoline	1
8	321- 2171	DECAL - oil pressure (646 - 646BH)	1
9	321- 2147	DECAL - ignition switch	1
10	321- 2111	DECAL - attachment drive	1
11	321- 2338	DECAL - travel control	1
12	321- 1788	DECAL - range selector	1
13	321- 3576	DECAL - important procedure (644BH - 646BH) (early production)	1
14	321- 3879	DECAL - model Series B (used S/N 9733040 and after), 646BH	2
15	321- 3899	DECAL - warning coupling procedure (646BH, Series B)	2
16	321- 5040	MEDALLION - "Case" used - 646, 646BH S/N 9758352 - 644 S/N 9757934 and after	2
17	321- 5108	DECAL - "Case" tread R.H. (used - 646, 646BH S/N 9758352 - 644 S/N 9757934 and after)	1
17	321- 5109	DECAL - "Case" tread L.H. (shown) (used - 646, 646BH S/N 9758352 - 644 S/N 9757934 and after)	1
18	321- 5115	*DECAL - "Case" tread R.H. (shown) 646BH (used S/N 9758352 and after on B.H. dipper)	1
18	321- 5116	*DECAL - "Case" tread L.H. 646BH (used S/N 9758352 and after on B.H. dipper)	1

*R.H. and L.H., on the backhoe attachment, are determined by the normal position of operation.

DECALS (Bilingual)

(French and English)

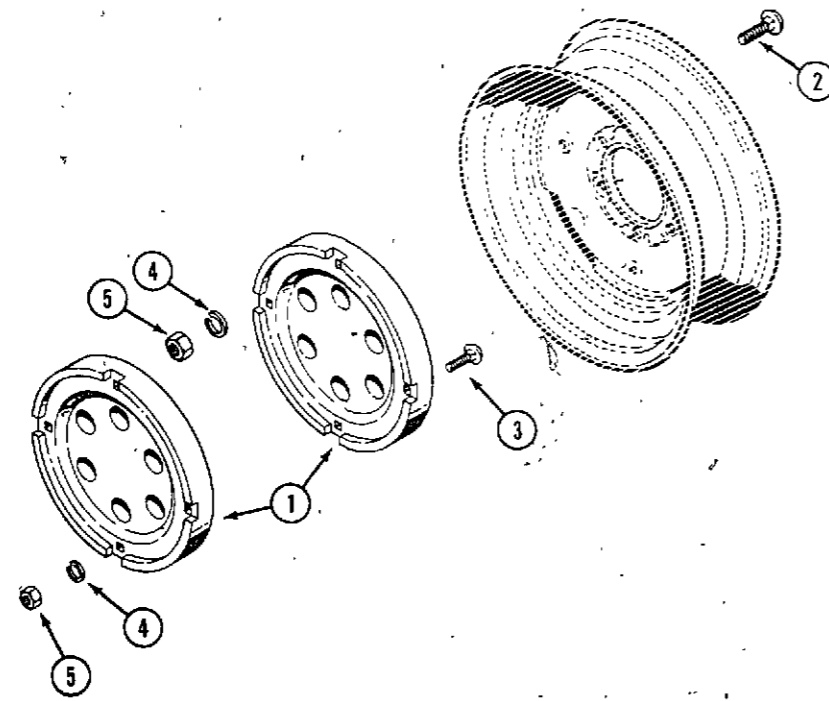
1	321- 4762	DECAL - instrument panel	1
5	321- 4733	DECAL - caution	1
6	321- 4743	DECAL - oil, hydraulic reservoir	1
7	321- 4728	DECAL - gasoline	1
8	321- 4694	DECAL - oil pressure (646 - 646BH)	1
9	321- 4692	DECAL - ignition switch	1
10	321- 4729	DECAL - attachment drive	1
11	321- 4732	DECAL - travel control	1
12	321- 4693	DECAL - shift range	1
15	321- 4749	DECAL - "Warning" coupling procedure	1
	321- 4787	DECAL - backhoe control	1



REF.	PART NO.	DESCRIPTION	REQ'D
1	C 17641	WEIGHT BOX - (644 and 646) (BH models prior to Series B)	1
2	C 13360	DRAWBAR	1
3	113- 424	BOLT - 1/2" x 1" NC hex	2
4	192- 23	LOCKWASHER - 1/2"	2
5	C 23982	WEIGHT BOX - (646BH Series B)	1
6	C 23946	BRACKET - mounting (646BH Series B)	1

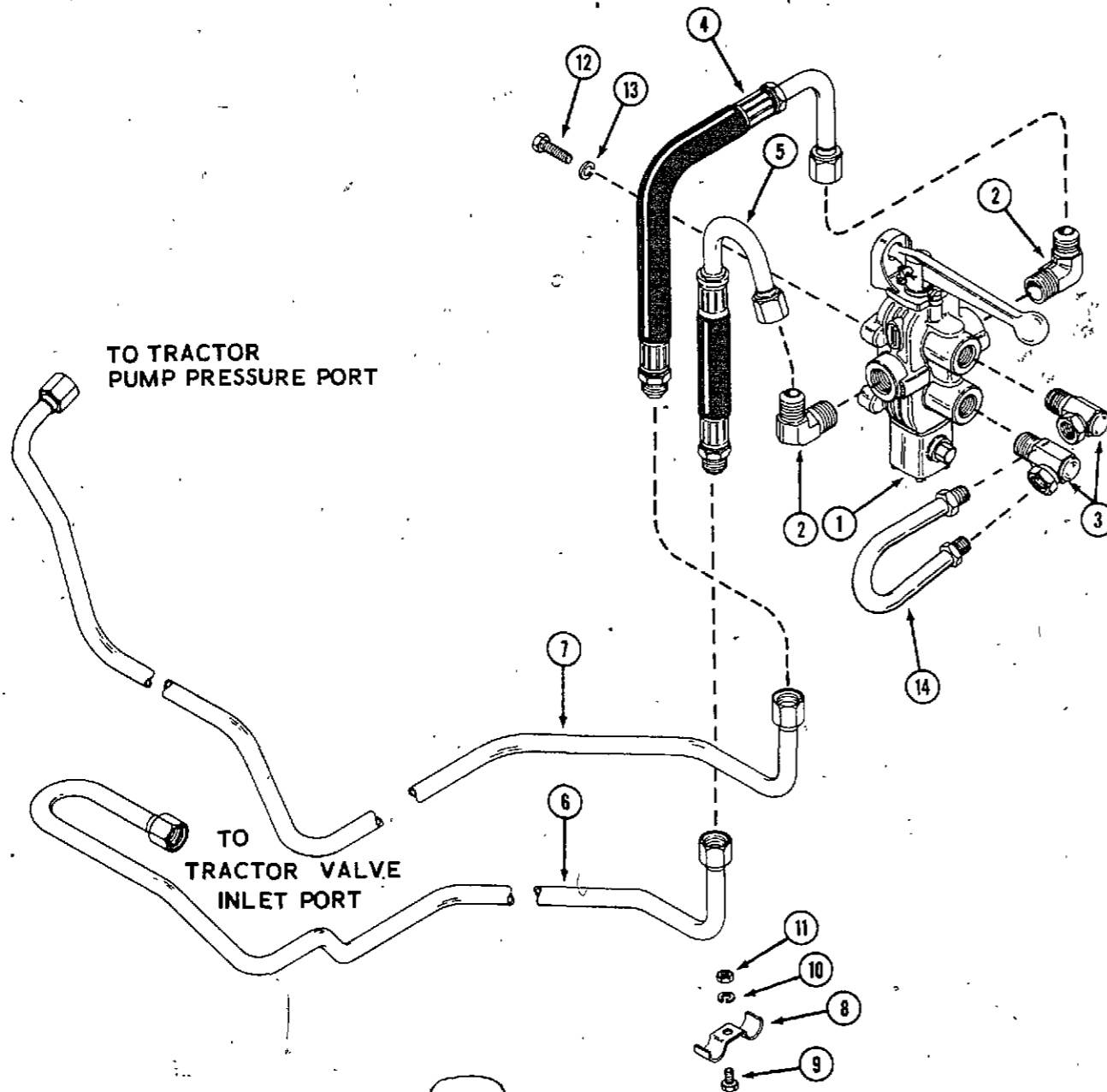
D10 WHEEL WEIGHTS

1	NSS	WEIGHT - wheel (Order as machinery item)	4
2	111- 530	BOLT - 1/2" x 2-1/2" NC round head, square neck ZP	4
3	111- 531	BOLT - 1/2" x 2-3/4" NC round head, square neck ZP	4
4	92- 8	LOCKWASHER - 1/2"	8
5	129- 105	NUT - 1/2" NC hex	8



**MODEL LT-16 HYDRAULIC PTO KIT (MODEL 646 AND 646BH)
(ALSO FACTORY INSTALLED PTO ON 646P)**

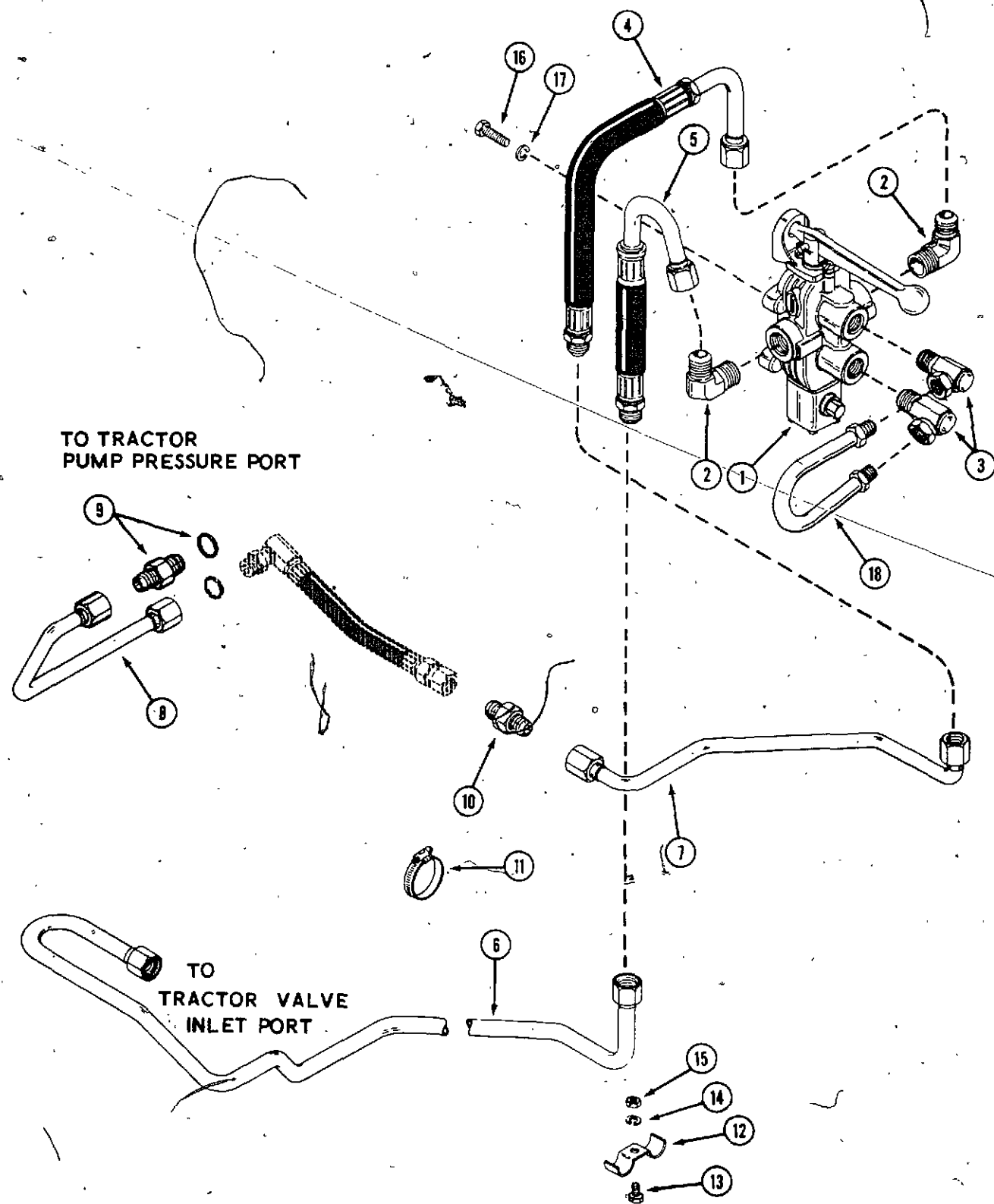
ILLUSTRATED AS VIEWED FROM
LEFT REAR OF TRACTOR



REF.	PART NO.	DESCRIPTION	REQ'D
1	C 18281	VALVE - hydraulic, PTO (repairs page 101) (does not include handle)	1
2	218- 494	FITTING - elbow, 90°	2
3	218- 927	FITTING - swivel, 90°	2
4	C 18287	HOSE, valve inlet	1
5	C 18288	HOSE - valve outlet	1
6	C 18285	TUBE - PTO valve to tractor valve	1
7	C 18286	TUBE - pump to PTO valve	1
8	C 15389	CLAMP - tube support	1
9	113- 3	BOLT - 1/4" x 3/4" NC hex	1
10	192- 19	LOCKWASHER - 1/4"	1
11	129- 101	NUT - 1/4" NC hex	1
12	113- 206	BOLT - 3/8" x 3/4" NC hex	4
13	192- 21	LOCKWASHER - 3/8"	4
14	C 22829	TUBE - hydraulic loop (646P)	1

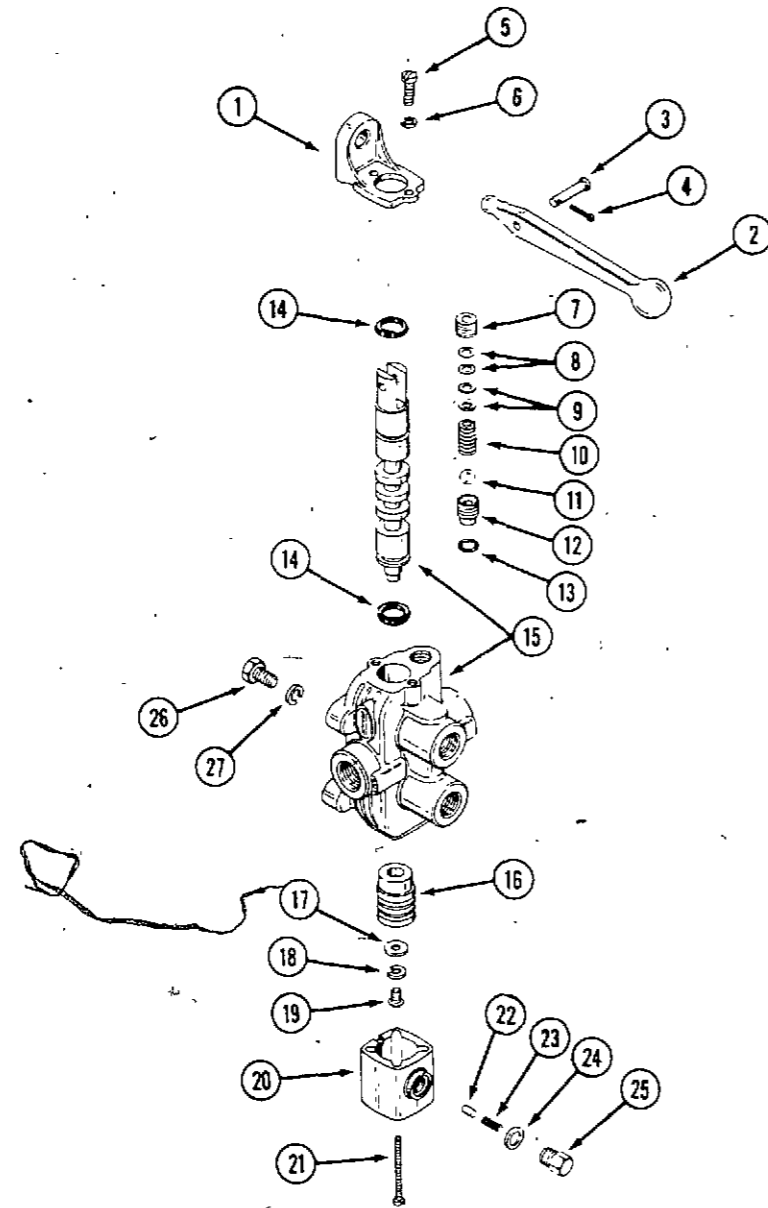
ILLUSTRATED AS VIEWED FROM
LEFT REAR OF TRACTOR

MODEL LK-17 HYDRAULIC PTO KIT (MODEL 644 AND 644BH)
(ALSO FACTORY INSTALLED PTO ON 644P)

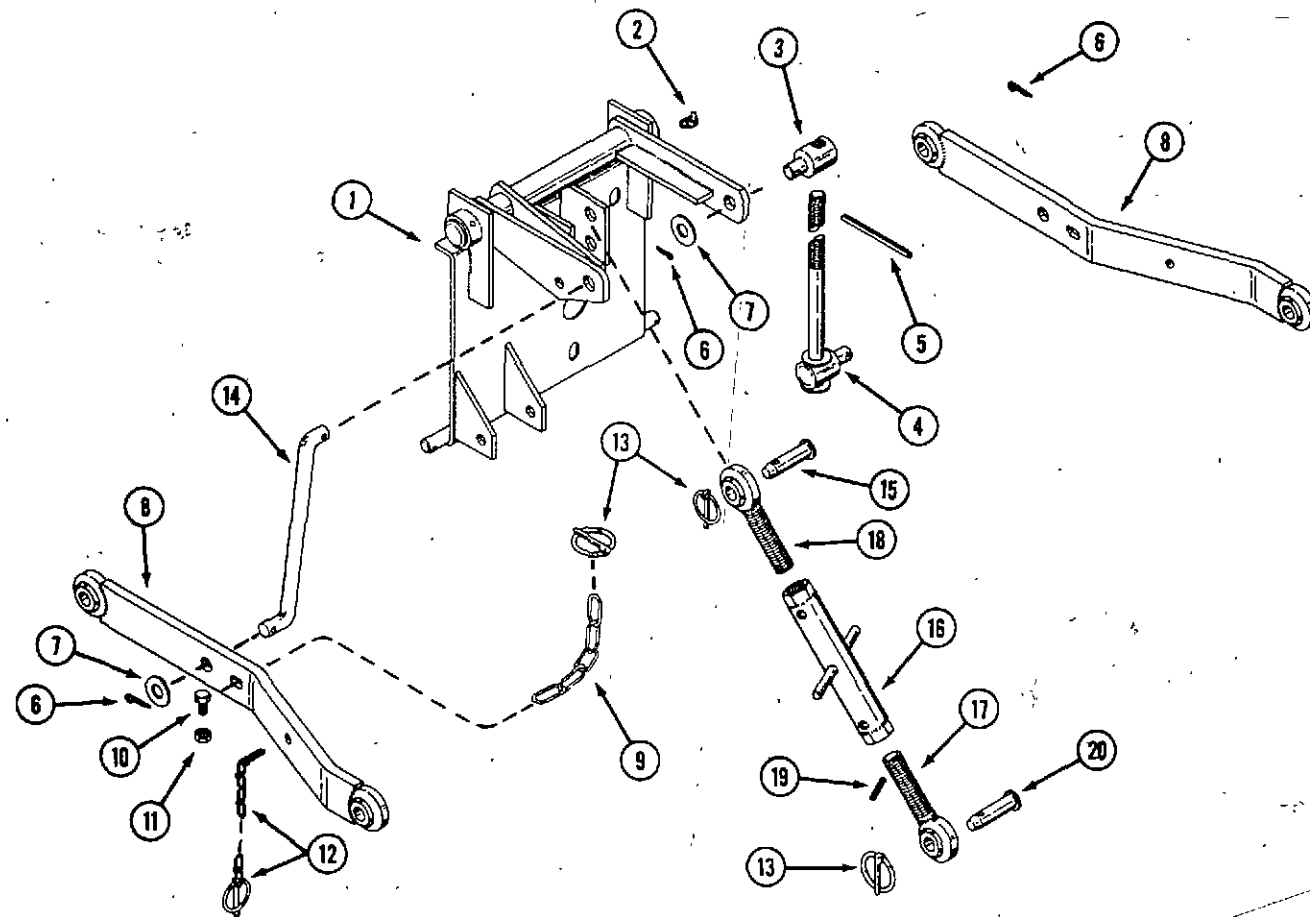


REF.	PART NO.	DESCRIPTION	REQ'D
1	C 18281	VALVE - hydraulic, PTO (repairs page 101) (does not include handle)	1
2	218 494	FITTING - elbow, 90°	2
3	218 927	FITTING - swivel, 90°	2
4	C 18287	HOSE - valve inlet	1
5	C 18288	HOSE - valve outlet	1
6	C 18285	TUBE - PTO valve to tractor valve	1
7	C 21946	TUBE - PTO valve to hose	1
8	C 21978	TUBE - hose to pump	1
9	218 5066	FITTING - pump (includes 218 - 5007 "O" ring)	1
10	218 675	FITTING	1
11	214 254	CLAMP - hose (tube support)	1
12	C 15389	CLAMP - tube support	1
13	113 3	BOLT - 1/4" x 3/4" NC hex	1
14	192 19	LOCKWASHER - 1/4"	1
15	129 101	NUT - 1/4" NC hex	1
16	113 206	BOLT - 3/8" x 3/4" NC hex	4
17	192 21	LOCKWASHER - 3/8"	4
18	C 22829	TUBE - hydraulic loop (644P)	1

LT-16 AND LK-17 HYDRAULIC PTO VALVE
(ALSO FACTORY INSTALLED PTO VALVE ON 644P AND 646P)



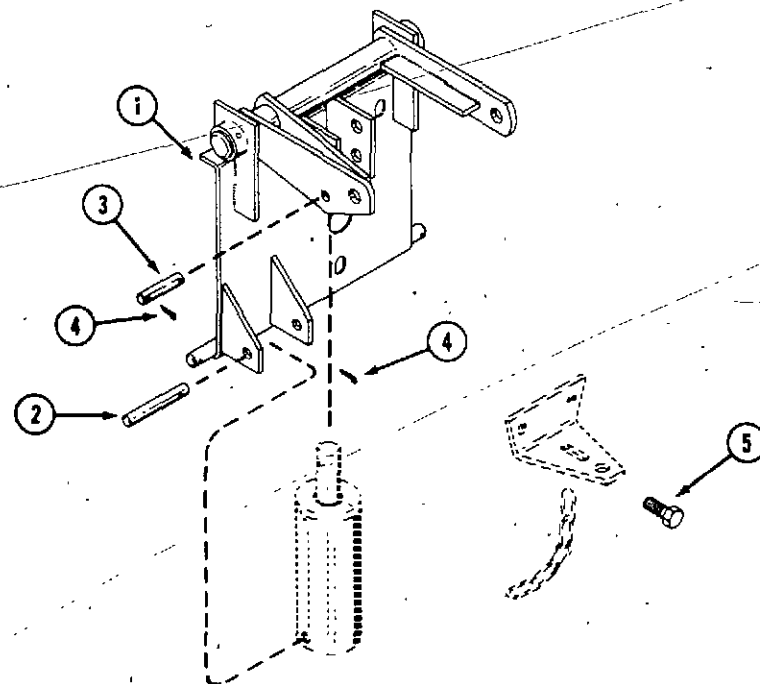
REF.	PART NO.	DESCRIPTION	REQ'D
	C 18281	VALVE - hydraulic PTO	1
1	C 11888	BRACKET - handle	1
2	C 11889	HANDLE - valve	1
3	36627	PIN - clevis	1
4	132- 5	PIN - cotter 1/16" x 1/2"	1
5	75- 410	SCREW	2
6	92- 4	LOCKWASHER - 1/4"	2
7	221- 842	PLUG - relief 3/8" NPT	1
8	D 39712	WASHER - relief, .010"	UAR
9	A 55894	WASHER - relief, .020"	UAR
10	T 40189	SPRING - relief	1
11	211- 11	BALL - relief 3/8"	1
12	C 18417	SEAT - relief	1
13	A 27891	SEAL - "O" ring, relief seat	1
14	C 11891	SEAL - "U" cup	2
15	NSS	BODY AND SPOOL ASSEMBLY (order C 18314 valve)	1
16	C 11895	ADAPTER - spool	1
17	95- 4	WASHER - detent	1
18	36628	LOCKWASHER ASSEMBLY - 1/4"	1
19	75- 48	SCREW - 1/4" x 1/2" rd. hd. machine	1
20	C 11893	BONNET - detent	1
21	169- 108	SCREW - bonnet #8 x 2-1/2" fillister head	4
22	C 11901	PIN - detent	1
23	C 11892	SPRING - detent	1
24	C 11886	WASHER - detent cap	1
25	C 11887	CAP - detent	1
26	113- 206	BOLT - 3/8" x 3/4" NC hex	4
27	192- 21	LOCKWASHER - 3/8"	4



**LT 26 THREE POINT HITCH
(FRAME, LIFT RODS AND ARMS)**

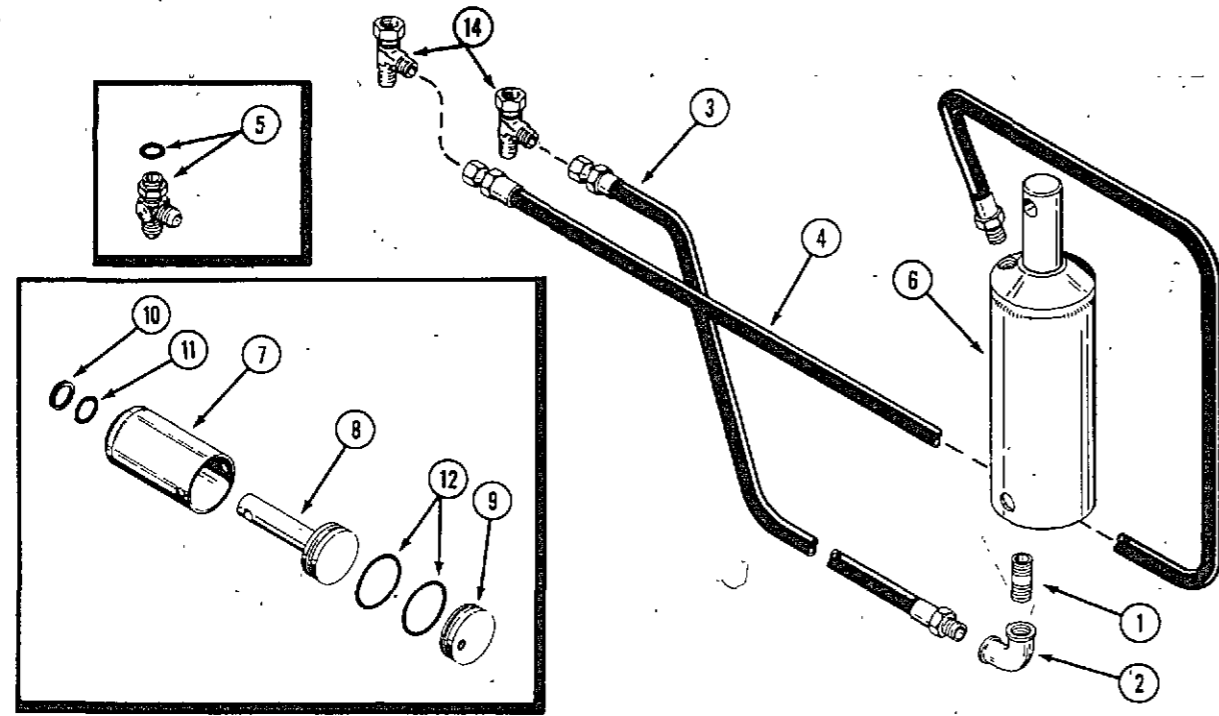
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 20117	HITCH PLATE ASSEMBLY	1
2	219- 405	FITTING - lube	2
3	C 14722	NUT - lift rod	1
4	C 14724	ROD ASSEMBLY - R.H. lift	1
5	138- 308	PIN - roll 1/4" x 3"	1
6	132- 91	PIN - cotter 3/16" x 1"	6
7	195- 541	WASHER - plain 5/8"	4
8	C 14715	ARM - lift	2
9	C 14991	CHAIN - stay 19 links	1
10	113- 118	BOLT - 5/16" x 5/8" NC hex, zinc plated	2
11	131- 176	NUT - lock 5/16" NC hex	2
12	B 52118	PIN - klik	2
13	A 30338	PIN - klik	3
14	C 14725	ROD - lift L. H.	1
15	C 14717	PIN - clevis	1
	C 14712	LINK ASSEMBLY	1
16	C 14703	CENTER TUBE ASSEMBLY	1
17	C 14709	BALL END ASSEMBLY R.H. THREAD	1
18	C 14710	BALL END ASSEMBLY L.H. THREAD	1
19	138- 59	PIN - roll 1/8" x 7/8"	2
20	C 16128	PIN - clevis 5/8" x 3"	1

**LT 26 THREE POINT HITCH
(CYLINDER AND DRAWBAR MOUNTING)**



1	C 20117	HITCH PLATE ASSEMBLY	1
2	C 19481	PIN - lower cylinder mounting	1
3	C 14976	PIN - upper cylinder mounting	1
4	132- 310	PIN - cotter 1/8" x 1"	3
5	113- 417	BOLT - 1/2" x 1-1/4" NC hex, zinc plated	4
6	192- 23	LOCKWASHER - 1/2"	4

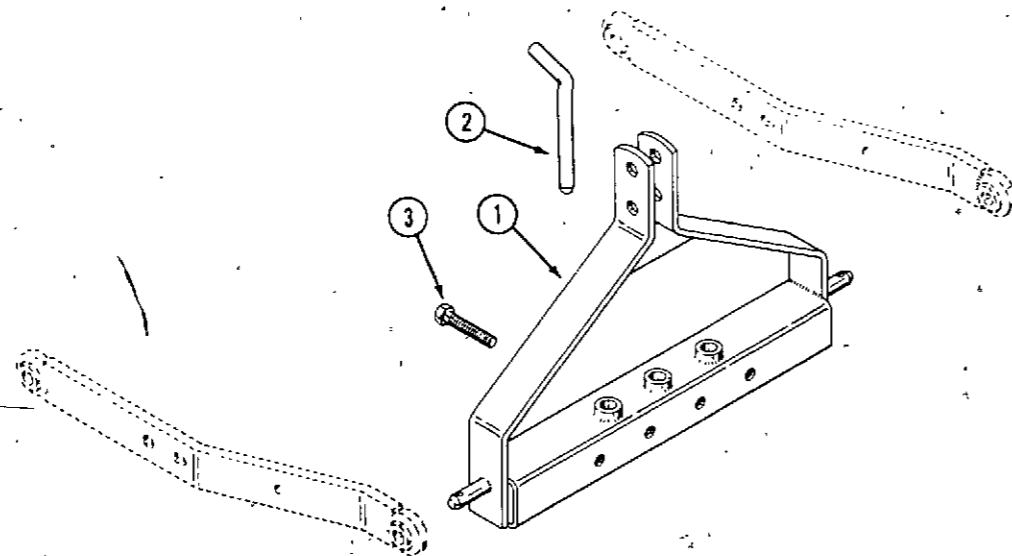
**MODEL LT26 THREE POINT HITCH
(HYDRAULIC CONNECTIONS AND COMPONENTS)**

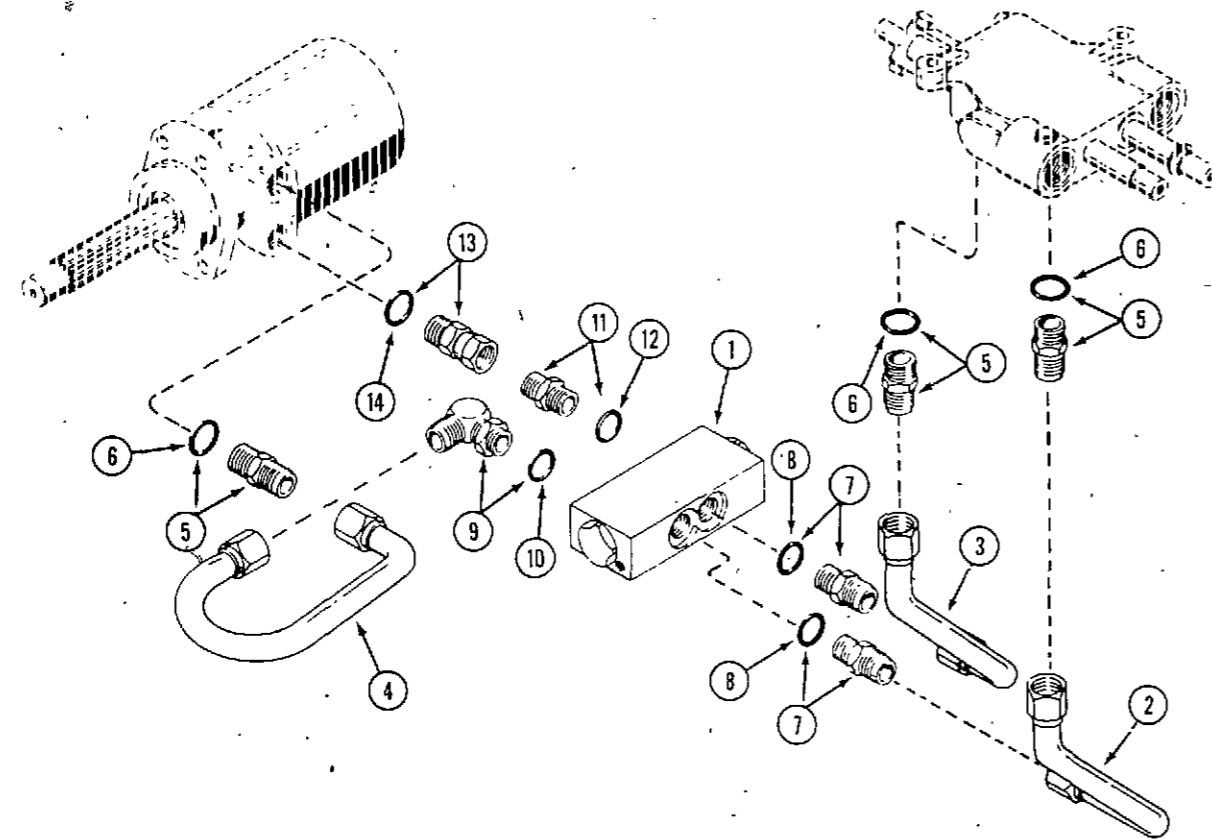


REF.	PART NO.	DESCRIPTION	REQ'D
1	221- 1139	NIPPLE - 1/4" x 3"	1
2	221- 1375	ELBOW - 90°	1
3	C 17188	HOSE - hydraulic short	1
4	C 17189	HOSE - hydraulic long	1
5	218- 5291	FITTING - tee (includes 218-5004 "O" ring) (early production)	2
6	C 19480	CYLINDER ASSEMBLY	1
7	C 19476	BODY - cylinder	1
8	C 19469	ROD AND PISTON ASSEMBLY	1
9	C 14692	FOOT - cylinder	1
10	NSS	SEAL - wiper	1
11	NSS	"O" RING	1
12	NSS	"O" RING	2
13	C 17268	KIT - seal (Consists of items 10, 11 and 12)	1
14	218- 5479	FITTING - tee, swivel (late production)	2

MODEL F27 HITCH ADAPTER

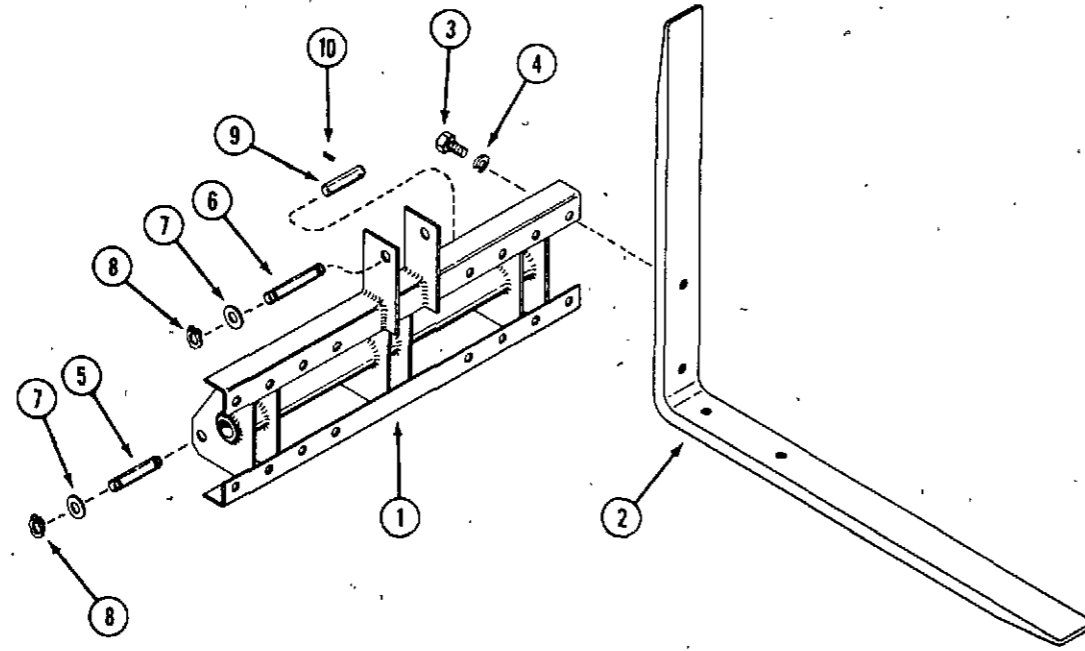
1	C 14872	BRACKET - hitch adapter	1
2	C 14568	PIN - drawbar	1
3	113- 425	BOLT - 1/2" x 3" NC hex, zinc plated	4





LL9 HOLDING VALVE

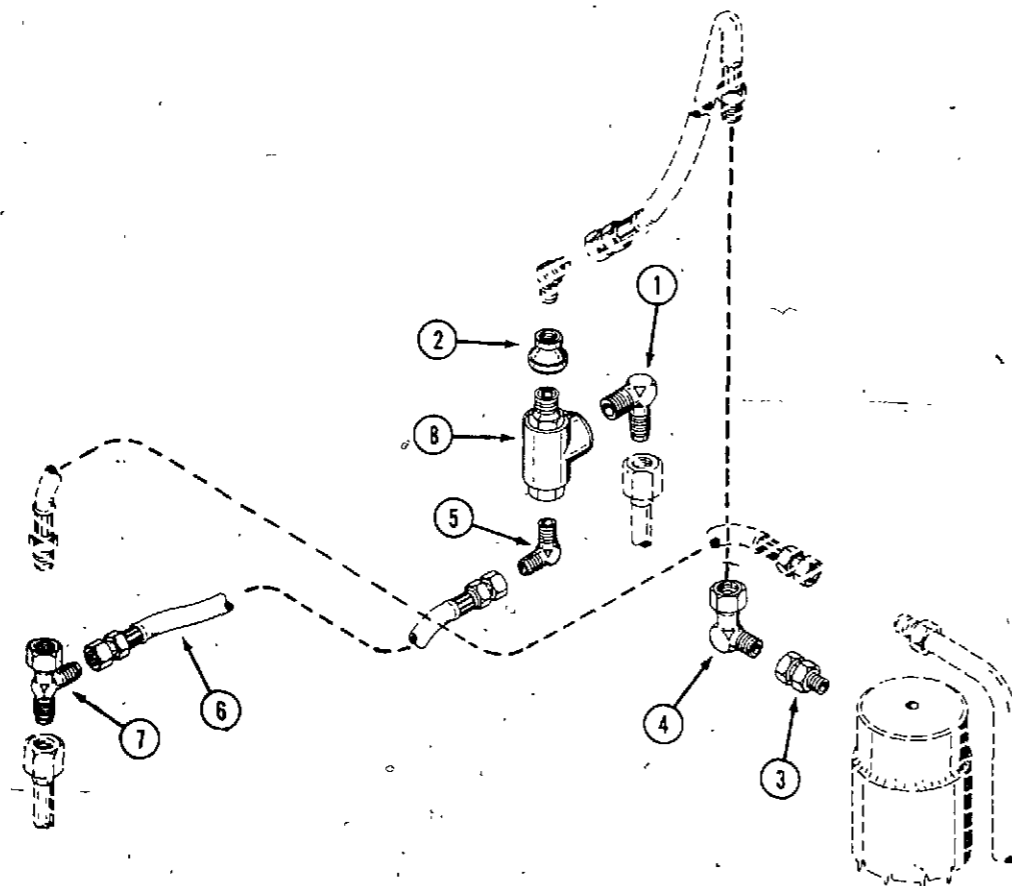
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 24995	VALVE - holding	1
	A 7623	"O" RING - end caps	2
2	C 25007	TUBE - valve to valve	1
3	C 25008	TUBE - valve to valve	1
4	C 24994	TUBE - valve to motor	1
5	218- 5062	CONNECTOR - straight, male	1
6	218- 5007	"O" RING	3
7	218- 5066	CONNECTOR - straight, male	1
8	218- 5006	"O" RING	2
9	218- 5117	ELBOW - adjustable	1
10	218- 5006	"O" RING	1
11	218- 5404	CONNECTOR - straight, male	1
12	218- 5006	"O" RING	1
13	218- 5251	CONNECTOR - straight, male/female swivel	1
14	218- 5007	"O" RING	1



LT-20, LK-20 AND LL-20 FORK LIFT

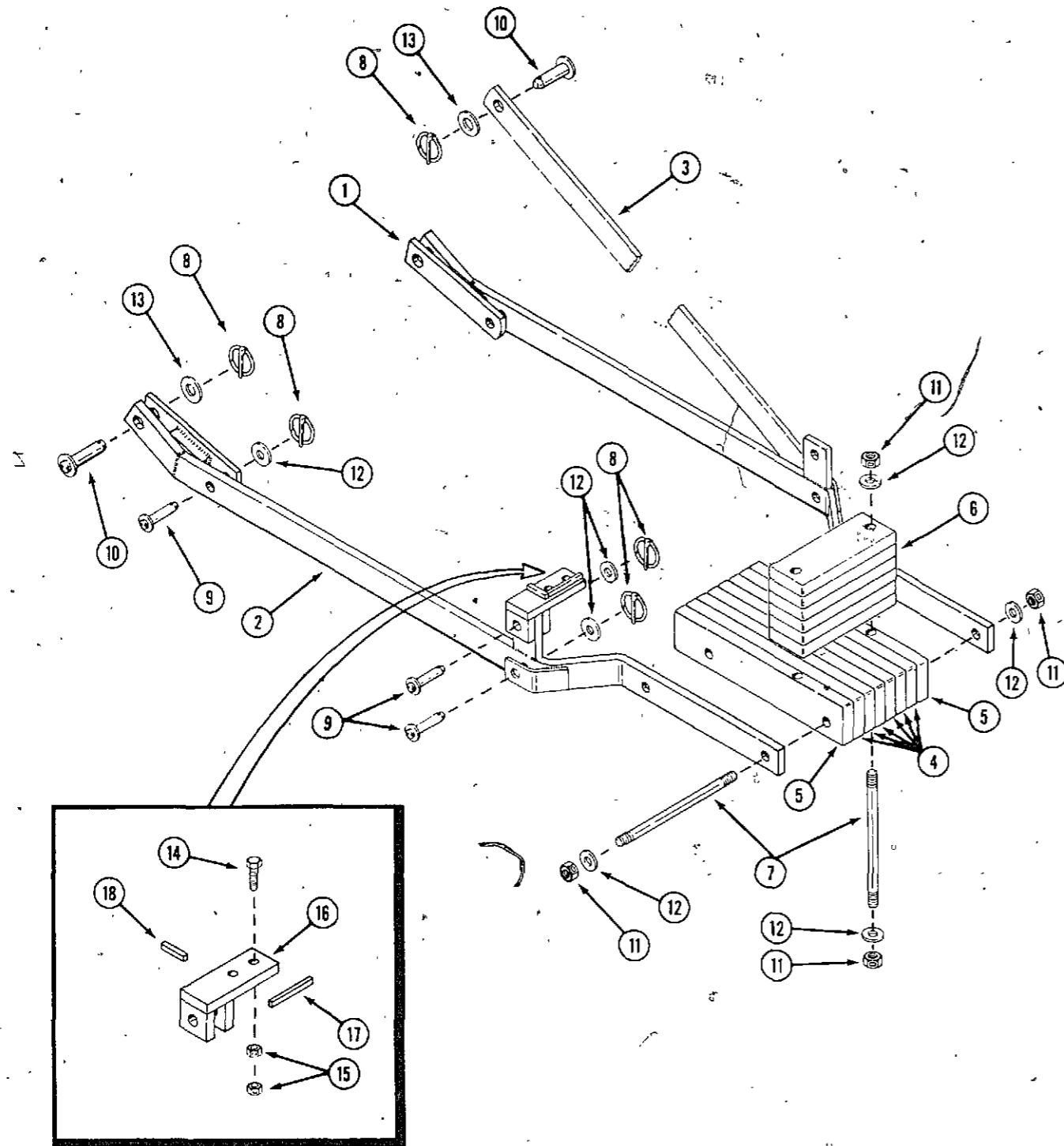
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 18637	FRAME ASSEMBLY - fork lift	1
2	C 18641	TINE - fork lift	2
3	113- 606	BOLT - 5/8" x 1-1/4" NC hex.	4
4	192- 25	LOCKWASHER, 5/8"	4
5	C 17334	PIN, loader, 3-5/16"	2
6	C 17336	PIN, loader, 4-3/4"	1
7	195- 545	WASHER, 3/4" plain ZP	6
8	A 33531	RING, retaining	6
9	C 21963	PIN, cylinder lift	1
10	138- 2005	PIN, spirol 1/4" x 1"	1

LK-20 AND LL-20 FORK LIFT CHECK VALVE HYDRAULIC COMPONENTS
LK-21 AND LL-21 VALVE KIT



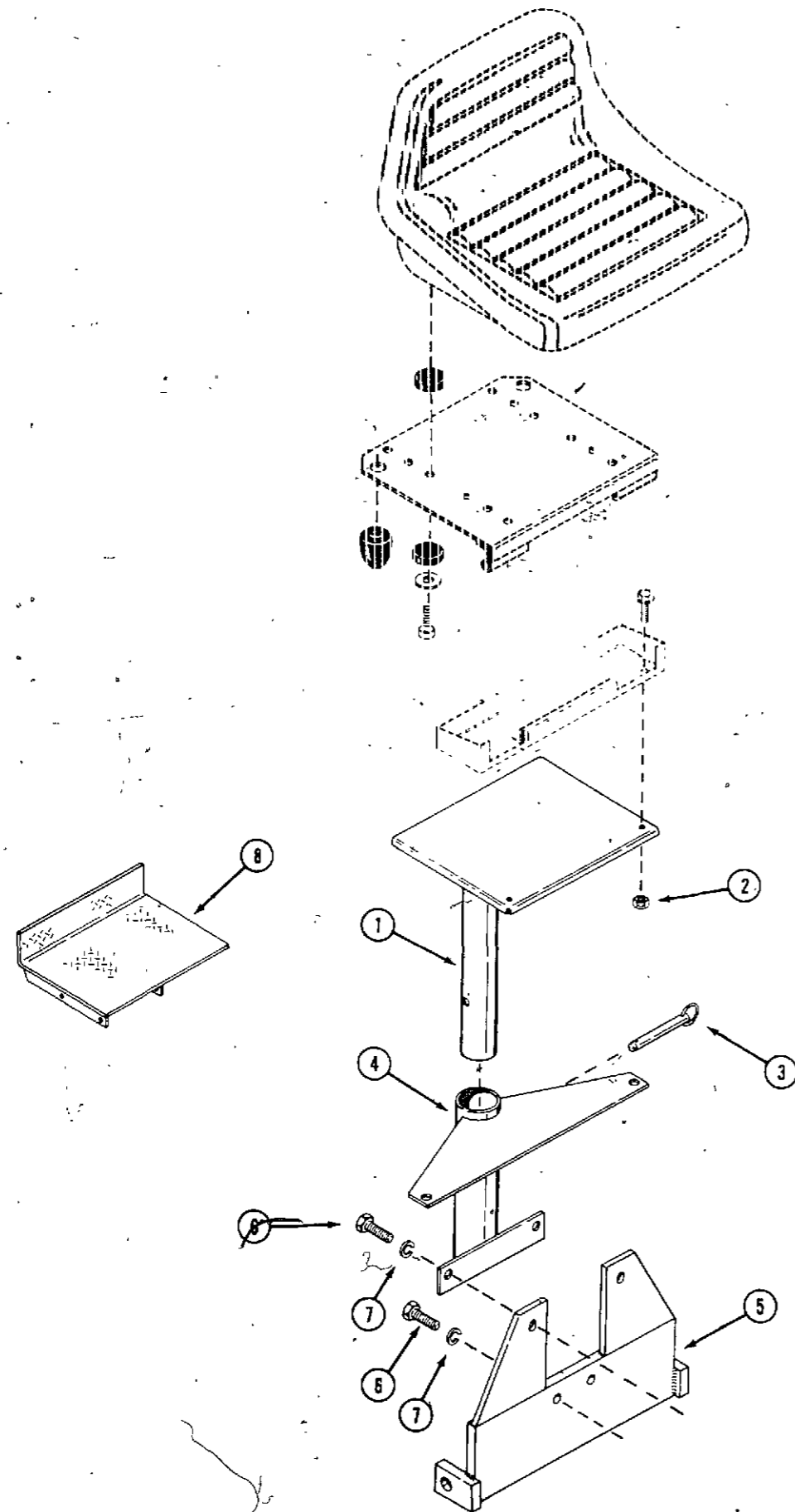
1	218- 493	FITTING - elbow 90° (LK-20) (LK-21)	1
1	218- 1054	FITTING - elbow 90° 3/8" NPT x 9/16" - 18 JIC (LL-20) (LL-21)	1
2	221- 1348	CONNECTOR - reduction 1/4" x 1/2" NPT	1
3	218- 910	ADAPTER - swivel 1/4" x 3/8" NPT (LK-20) (LK-21)	1
4	218- 997	ADAPTER - swivel 90° (LK-20) (LK-21)	1
4	218- 993	ADAPTER - swivel 90° (LL-20) (LL-21)	1
5	218- 1055	FITTING - elbow 90° (LK-20) (LK-21)	1
5	218- 483	FITTING - elbow 90° 1/4" NPT x 9/16" - 18 JIC (LL-20) (LL-21)	1
6	C 22744	HOSE - hydraulic (LK-20) (LK-21)	1
6	C 25168	HOSE - hydraulic (LL-20) (LL-21)	1
7	218- 845	FITTING - tee 3/4" - 16 (LK-20) (LK-21)	1
7	218- 5222	FITTING - tee 9/16" - 18 (LL-20) (LL-21)	1
8	D 69752	VALVE - check	1

BACKHOE MOUNTING COMPONENTS - 644BH AND 646BH
(EARLY PRODUCTION)
 (Order Catalog 1275 for D-100 Backhoe Parts Breakdown)



REF.	PART NO.	DESCRIPTION	REQ'D
1	C 22693	ARM - mounting, lower L.H.	1
2	C 22690	ARM - mounting, Lower R.H.	1
3	C 21831	ARM - mounting, side	2
4	C 21832	WEIGHT - counter	6
5	C 21833	WEIGHT - counter	2
6	C 21834	WEIGHT - counter, upper	6
7	C 21845	ROD - threaded, 13-1/2"	4
8	A 30338	PIN - klik	10
9	C 21901	PIN - 3/4"	6
10	C 21904	PIN - 1"	4
11	131- 1131	NUT - lock 3/4" NC hex	8
12	195- 545	WASHER - 3/4"	14
13	195- 553	WASHER - 1"	4
14	113- 421	BOLT - 1/2" x 2" NC hex	4
15	131- 1182	NUT - lock, 1/2" NC hex	8
16	C 21828	BRACKET - mounting	2
17	C 21921	SPACER - long	2
18	C 21922	SPACER - short	2

BACKHOE SEAT ASSEMBLY - 644BH AND 646BH
 (USED PRIOR TO S/N 9732040)



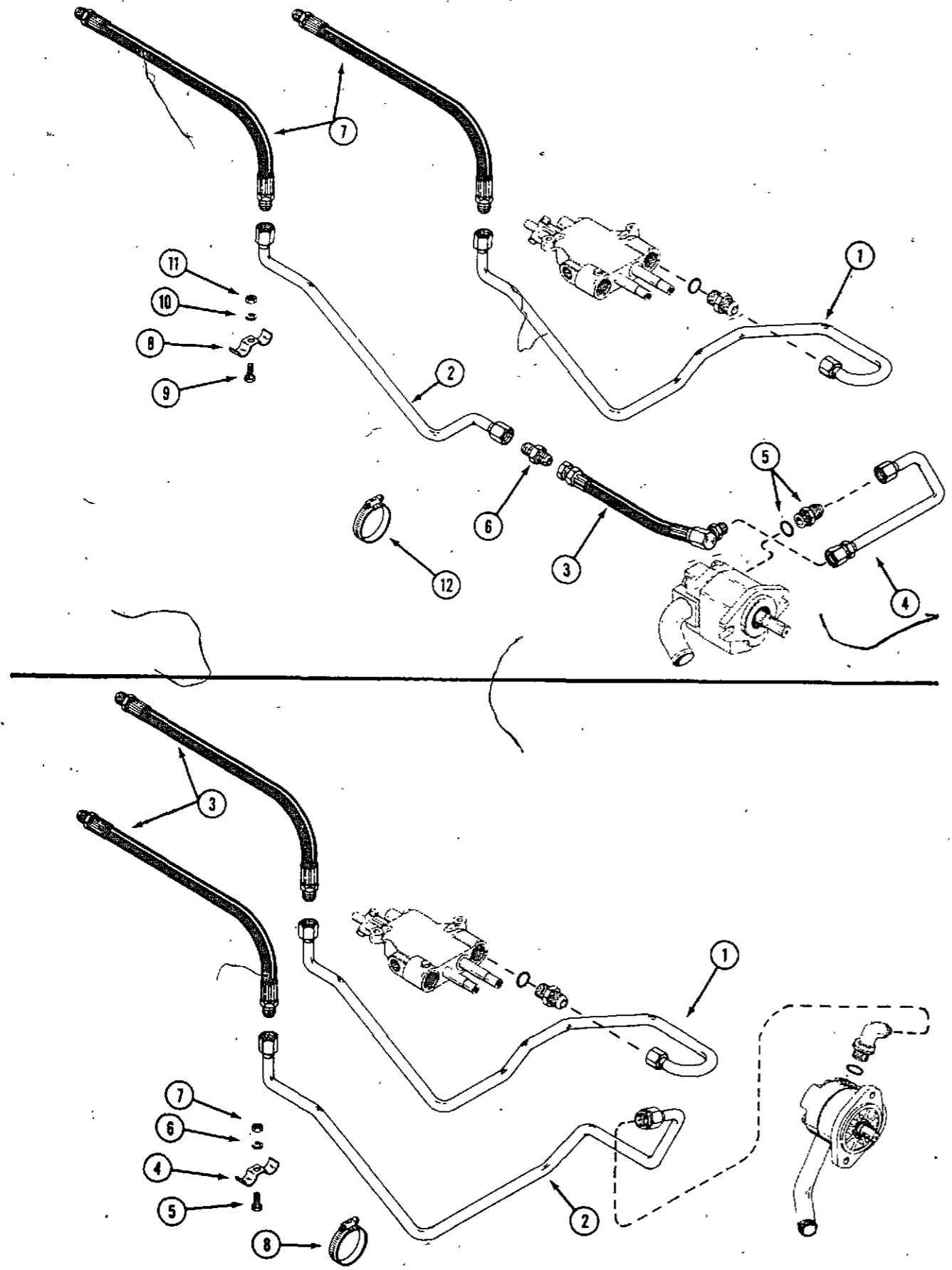
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 21853	SUPPORT - seat assembly	1
2	131- 176	NUT - lock 5/16" NC hex	2
3	C 21875	PIN - adjust, seat	1
4	C 21848	POST ASSEMBLY - seat support	1
5	C 21824	PLATE - ASSEMBLY - rear	1
6	113- 410	BOLT - 1/2" x 1-1/2" NC hex	4
7	192- 213	LOCKWASHER - 1/2"	4
8	C 24520	PAD - foot rest, L.H.	1
8	C 24519	PAD - foot rest, R.H.	1

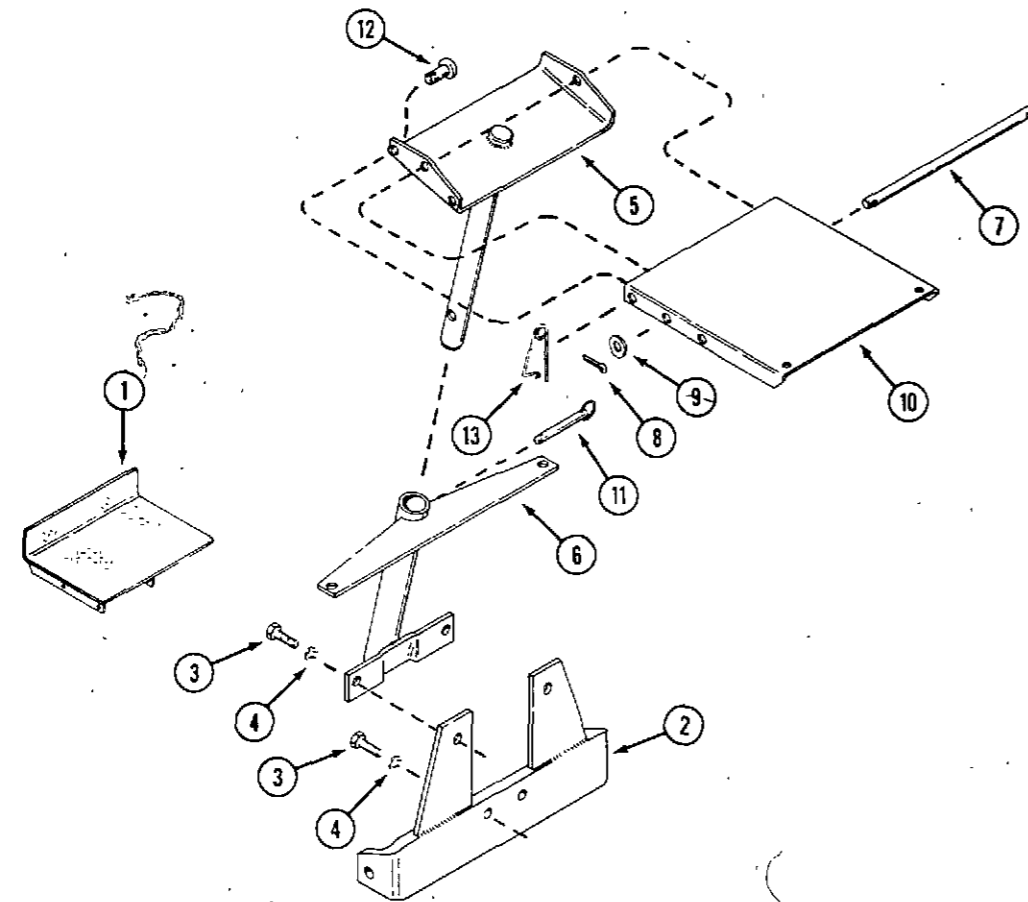
BACKHOE HYDRAULIC COMPONENTS — 644BH
 (See Catalog No. 1275 For D-100 Hydraulic Components)

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 18285	TUBE - valve to hose	1
2	C 21946	TUBE - pump hose to backhoe hose	1
3	C 18797	HOSE - pump to tube (includes 218-5006 "O" ring)	1
4	C 21978	TUBE - pump to hose	1
5	218- 5066	FITTING - hyd. (includes 218-5007 "O" ring)	1
6	218- 675	FITTING - hyd. 37° flare	1
7	C 21996	HOSE - loader to backhoe	2
8	C 15389	CLAMP - tube support	1
9	113- 3	BOLT - 1/4" x 3/4" NC hex	1
10	192- 19	LOCKWASHER - 1/4"	1
11	129- 101	NUT - 1/4" NC-hex	1
12	214- 254	CLAMP - hose 1-1/4"	1

BACKHOE HYDRAULIC COMPONENTS — 646BH
 (used prior to S/N 9732040)

1	C 18285	TUBE - valve to hose	1
2	C 18286	TUBE - pump to hose	1
3	C 21996	HOSE - loader to backhoe	2
4	C 15389	CLAMP - tube support	1
5	113- 3	BOLT - 1/4" x 3/4" NC hex	1
6	192- 19	LOCKWASHER - 1/4"	1
7	129- 101	NUT - 1/4" NC hex	1
8	214- 254	CLAMP - hose 1-1/4"	1



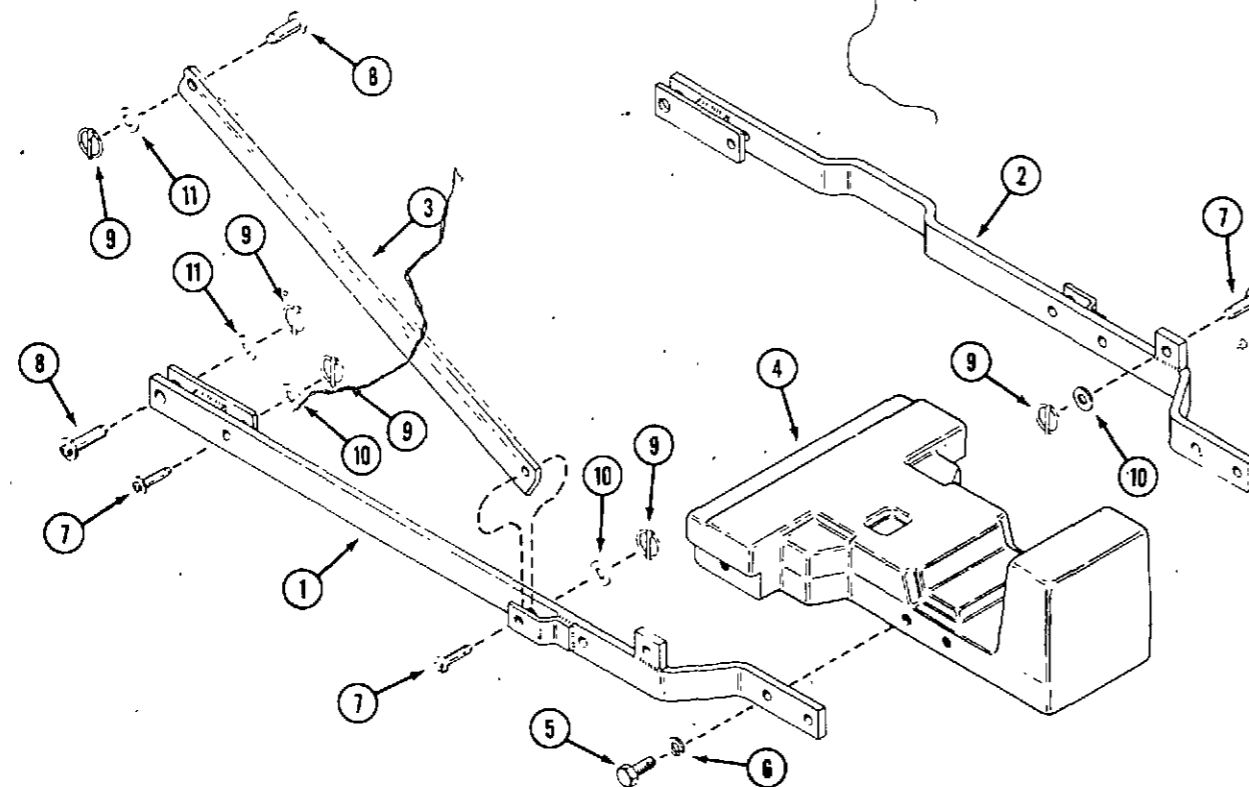


**BACKHOE SEAT ASSEMBLY - 646BH SERIES B
(USED S/N 9732040 AND AFTER)**

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 24569	PAD - foot rest, L.H.	1
1	C 24571	PAD - foot rest, R.H.	1
2	C 23684	PLATE - mounting, rear.	1
3	113- 410	BOLT - 1/2" x 1-1/2" hex.	4
4	192- 213	LOCKWASHER - 1/2"	4
5	C 23736	POST ASSEMBLY - seat	1
6	C 23733	TUBE ASSEMBLY - support, post	1
7	C 23737	PIN - pivot	1
8	132- 49	PIN - cotter - 1/8" x 1-1/8"	2
9	195- 545	WASHER	2
10	C 23738	PLATE - pivot, seat	1
11	C 21875	PIN - adjust	1
12	141- 51	PIN - clevis 1/2" x 1-3/8"	1
13	C 10898	PIN - safety	1

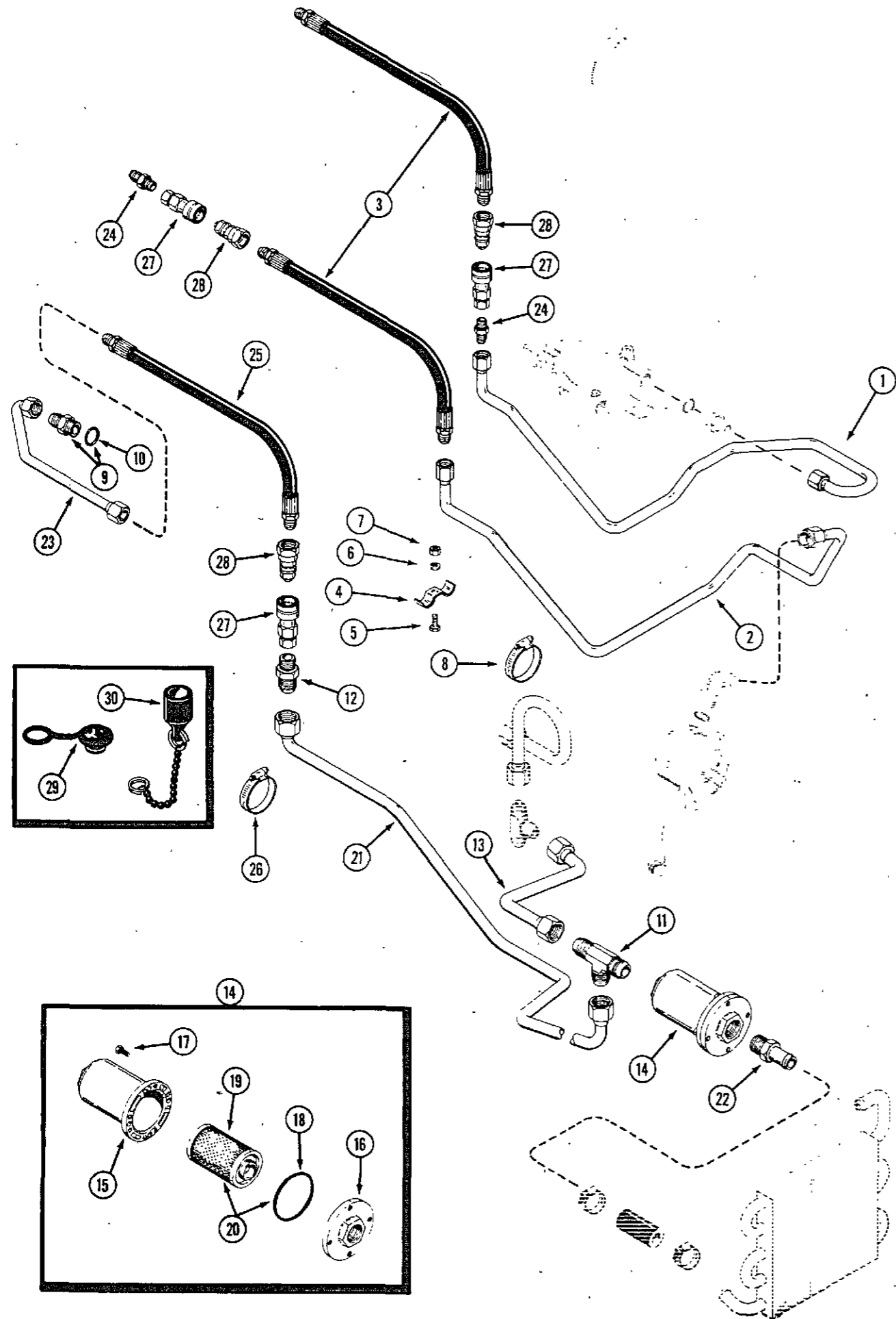
**BACKHOE MOUNTING COMPONENTS 646BH SERIES B
(USED S/N 9732040 AND AFTER)**

(Order Catalog A1275 for D-100 Backhoe Parts Breakdown)



1	C 23178	ARM - mounting, lower R.H.	1
2	C 23181	ARM - mounting, lower L.H.	1
3	C 23182	ARM - mounting, side	2
4	C 23682	WEIGHT - counter	1
5	113- 708	BOLT - 3/4" x 2" hex.	6
6	192- 27	LOCKWASHER - 3/4"	6
7	C 21901	PIN - 3/4"	6
8	C 21904	PIN - 1"	4
9	A 30338	PIN - klick	10
10	195- 545	WASHER - 3/4"	6
11	195- 553	WASHER - 1"	4

**SERIES "B" BACKHOE HYDRAULIC COMPONENTS - 646BH
(USED S/N 9732040 AND AFTER)**



REF	PART NO.	DESCRIPTION	REQ'D
1	C 18285	TUBE - valve to hose	1
2	C 18286	TUBE - pump to hose	1
3	F 22795	HOSE - loader to backhoe	2
4	C 15389	CLAMP - tube support	1
5	113- 3	BOLT - 1/4" x 3/4" NC hex.	1
6	192- 19	LOCKWASHER - 1/4"	1
7	129- 101	NUT - 1/4" NC hex.	1
8	214- 254	CLAMP - hose 1-1/4"	1
9	C 18321	FITTING - straight, hydraulic (includes 218-5007 "O" ring).	1
10	218- 5007	"O" RING	1
11	218- 616	FITTING - tee, hydraulic	1
12	218- 458	FITTING - straight, hydraulic	1
13	C 23912	TUBE - return, tee to tee	1
14	D 21003	FILTER ASSEMBLY - hydraulic oil	1
15	D 21004	HOUSING - filter	1
16	D 21005	COVER - filter	1
17	D 21007	BOLT - cover	4
18	D 21006	SEAL - "O" ring	1
19	NSS	CARTRIDGE - filter (use R 2799 kit below)	1
20	R 2799	KIT - filter, service	1
	D 21006	SEAL - "O" ring	1
	NSS	CARTRIDGE - filter	1
21	C 23915	TUBE - return, backhoe to tee	1
22	217- 155	FITTING - hydraulic, filter to hose	1
23	C 23887	TUBE - return, on backhoe	1
24	218- 445	FITTING - straight, hydraulic	2
25	F 22795	HOSE - hydraulic, backhoe return	1
26	214- 258	CLAMP - tube support	1
27	C 23939	COUPLER - body	3
28	T 41332	COUPLER - nose piece	3
29	A 137135	PLUG - protective, coupler body	1
30	C 23918	CAP - protective, coupler nose piece	1
	221- 1842	PLUG - pipe, backhoe valve	1

NUMERICAL INDEX

NUMERICAL INDEX

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.	PART NO.	PAGE NO.	REF. NO.	
	10923	85	11	A	43182	89			C	11527	77				C	14728	49	15
	10923	89	17	A	43356	81	31		C	11528	63	34			C	14827	75	4
	10927	89	12	A	43356	83	31		C	11528	77				C	14828	75	7
	10934	89	3	A	43494	81	2		C	11529	39	2			C	14829	75	8
	36627	101	3	A	43495	81	23		C	11529	43	18			C	14830	75	9
	36628	101	18	A	43499	81	37		C	11529	67	12			C	14831	75	10
	36686	85	4	A	43499	83	37		C	11545	39	3			C	14832	75	11
	40035	29	20	A	44433	81	29		C	11545	43	19			C	14834	75	13
	40035	31	28	A	44433	83	29		C	11545	67	13			C	14836	75	15
	49485	37	24	A	50096	57	18		C	11886	101	24			C	14837	75	15
A	7623	107		A	50096	57B	18		C	11887	101	25			C	14837	75	5
A	7982	69	5	A	55894	101	9		C	11888	101	1			C	14838	75	16
A	7982	71	6	A	59939	51	10		C	11889	101	2			C	14872	105	1
A	10326	37	22	A	62079	91			C	11891	101	14			C	14906	31	44
A	24509	91	21	A	70090	39	5		C	11892	101	23			C	14906	43	16
A	24509	85B	16	A	70202	85	8		C	11893	101	20			C	14946	53	11
A	25213	85	2	A	72000	73	13		C	11895	101	16			C	14954	31	38
A	25409	85	26	A	72013	41	8		C	11901	101	22			C	14976	103	3
A	25447	81	20	A	72038	81	7		C	12093	65	25			C	14991	103	9
A	25447	83	20	A	72038	83	7		C	12093	79	9			C	15007	39	11
A	25461	83	4	A	72039	81	5		C	12127	65	11			C	15036	73	19
A	25546	81	36	A	72039	83	5		C	12127	79	36			C	15096	51	26
A	25546	83	36	A	72040	81	6		C	12224	37	2			C	15335	59	1
A	27001	29	23	A	72040	83	6		C	12551	57	25			C	15389	97	8
A	27251	85	17	A	72041	83	23		C	12551	57B	25			C	15389	99	12
A	27251	85B	25	A	72042	81	10		C	12552	57	26			C	15389	115	4
A	27365	31	39	A	72042	83	10		C	12552	57B	26			C	15389	115	8
A	27891	101	13	A	72043	81	17		C	12559	57	31			C	15389	119	4
A	28077	5	6	A	72043	83	17		C	12559	57B	31			C	15410	49	9
A	30064	53	2	A	72046	81	32		C	12560	57	32			C	15515	45	7
A	30095	59	22	A	72046	83	32		C	12560	57B	32			C	15515	45B	6
A	30095	61	22	A	72047	81	33		C	12713	57	2			C	15556	45	11
A	30097	69	21	A	72047	83	33		C	12713	57B	2			C	15557	45	8
A	30338	103	13	A	72048	81	11		C	12718	57	36			C	15557	45B	10
A	30338	111	8	A	72048	83	11		C	12718	57B	36			C	15718	45	3
A	30338	117	9	A	72104	83	2		C	12723	57	9			C	15718	45B	3
A	31220	51	38	A	137135	119	29		C	12723	57B	9			C	15721	45	1
A	33531	55	14	B	50213	91			C	12725	57	21			C	15746	45B	21
A	33531	109	8	B	50223	89	5		C	12725	57B	21			C	16128	103	20
A	34046	85	7	B	50255	89	2		C	12824	55	18			C	16239	47	8
A	34046	89	21	B	50273	89	6		C	12888	51	11			C	16295	57	27
A	34428	51	40	B	50293	89	14		C	12932	71	11			C	16295	57B	27
A	35690	73	8	B	52118	103	12		C	12965	57	38			C	16339	57	22
A	37247	65	24	B	52144	57	15		C	12965	57B	38			C	16429	49	7
A	37247	71	4	B	52144	57B	15		C	12975	51	23			C	16516	75	1
A	37247	79	8	B	90366	61	7		C	13106	51	14			C	16616	45	19
A	39888	89	11	C	10316	53	1		C	13106	55	19			C	16616	45B	1
A	40702	81	4	C	10372	25	2		C	13168	53	13			C	16714	71	2
A	40702	83	40	C	10372	33	13		C	13196	57	17			C	16744	57	3
A	40736	81	21	C	10657	43	14		C	13196	57B	17			C	16786	45	13
A	40736	81	22	C	10678	5	23		C	13197	57	13			C	16786	45B	12
A	40736	83	21	C	10678	39	8		C	13197	57B	13			C	16796	67	14
A	40736	83	22	C	10678	43	3		C	13200	69	8			C	16852	85	8
A	40855	85	3	C	10822	53	6		C	13200	71	16			C	16945	51	25
A	40855	89	4	C	10836	87	3		C	13200	71	24			C	17066	49	20
A	41927	81	13	C	10898	47	29		C	13211	57	8			C	17152	49	14
A	41927	83	13	C	10898	117	13		C	13241	57	5			C	17187	85	2
A	41959	81	27	C	11501	51	18		C	13241	57B	5			C	17188	105	3
A	42127	81	25	C	11527	63	33		C	13261	57	28			C	17189	105	4

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