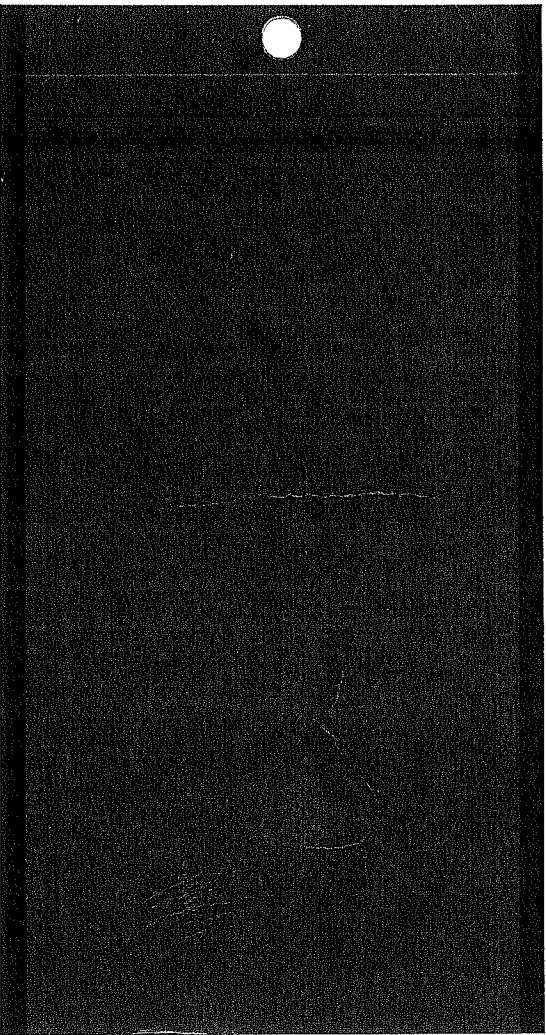


Ingersoll

COMPACT TRACTOR

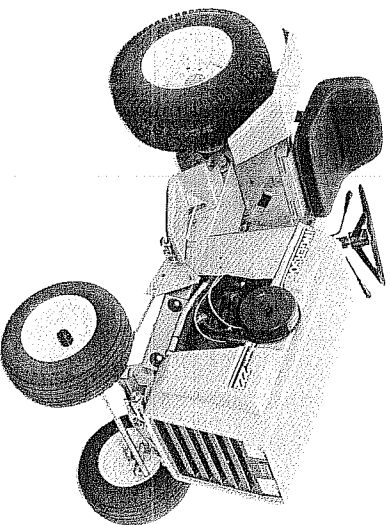
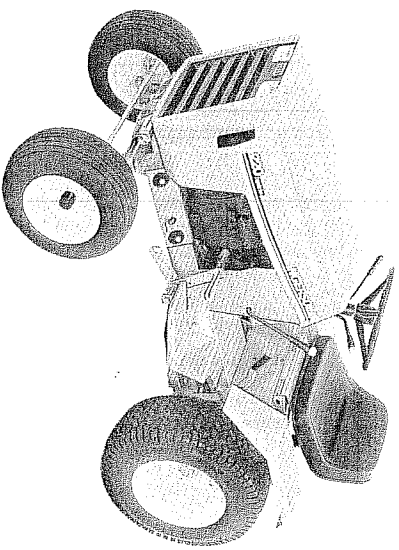
220 - S/N 14035005 and AFTER
222 - S/N 14036630 and AFTER
224 - S/N 14038300 and AFTER
444 - S/N 14039740 and AFTER
Parts Catalog 8-2742



QUALITY IN THE AMERICAN TRADITION

Ingersoll Equipment Co., Inc.

Winneconne, Wisconsin 54986-9576



COMPACT TRACTORS
220 - S/N 14035005 and AFTER
222 - S/N 14036630 and AFTER
224 - S/N 14038300 and AFTER
444 - S/N 14039740 and AFTER
Parts Catalog 8-2742

NOTE: This catalog replaces
Catalog 8-2741

2-92-RP-500-494

PAINT AND OIL

MODEL 220, 222, 224 AND 444 COMPACT TRACTORS

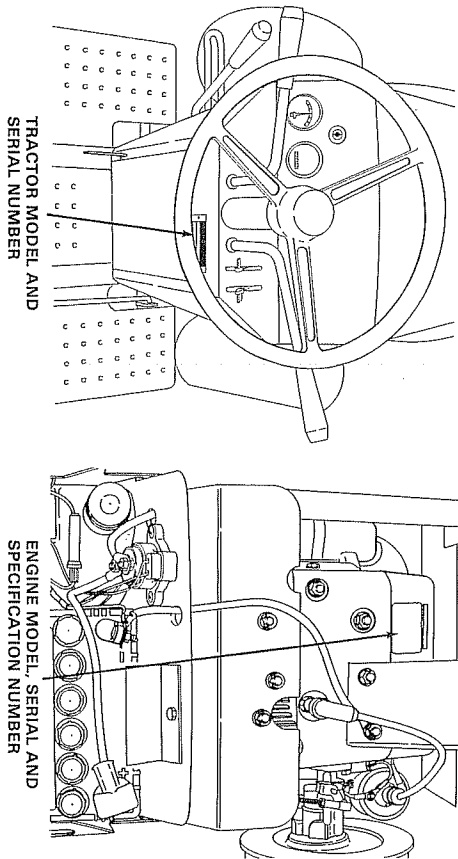
PAINT

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 28849	BLACK - semi - gloss, 12 oz spray (2 per carton)	1
2	C 28850	BLACK - semi - gloss, quart (2 per carton)	1
3	C 28851	BLACK - semi - gloss, heat resistant, 12 oz spray (2 per carton)	1
4	C 28484	POWER RED - gloss, 12 oz spray (2 per carton)	1
5	C 28485	POWER RED - gloss, quart (2 per carton)	1
6	C 30870	SILVER - gloss, 12 oz. spray (2 per carton)	1
7	C 31643	POWER RED - gloss, 1 oz touch up, (1 doz. per carton)	1

OIL

1	C 32776	OIL - SAE 30, SF, quart (12 per case)	1
2	C 32777	OIL - SAE 5W/20, SF, quart (12 per case)	1
3	C 32778	OIL - SAE 20W/40, SF, quart (12 per case)	1

PRODUCT IDENTIFICATION NUMBERS



TRACTOR MODEL	ENGINE MODEL
220	C26982 K-241-AS SPEC. PF46837
222	C26983 K-301-AS SPEC. PF47803
224-444	C26984 K-321-AS SPEC. PF 60410

NOTE: This catalog contains references to serial numbers. Use these serial numbers as a guide to order the correct part.

GENERAL INFORMATION

INDEX

There is an index at the front and rear of this catalog. The front index is an alphabetical index of the major groups or assemblies.

The rear index is a numerical index of the part numbers and pages on which these numbers are shown.

ILLUSTRATION

Each illustration in this catalog shows a group of parts or components. These parts and components are aligned approximately as the parts and components on your machine. Each part and component in an illustration has a reference number. These reference numbers are in a list on the page opposite of the illustration. Next to the reference number is the part number, description and required quantity of the part shown in the illustration.

UAR - "Use as required" indicates that the part quantity is variable.

NSS - "Not sold separately" indicates that the part is only available as a component of an assembly or the part must be purchased locally. If the part is an assembly component, the description will be indented under the assembly description in the parts list.

O/L - "Obtain locally"

** - "Footnotes" are added to a part number when more information is needed for identification. They only relate to the part numbers indicated.

INDENTED DESCRIPTIONS

An assembly can have many components. The components of an assembly are indicated by an indented description. The quantity for an indented part is the total needed for that complete assembly. See the example.

REF.	PART NO.	DESCRIPTION	REQ'D
28	C 55159	CYLINDER ASSY - rear steering	1
29	C 55208	SOCKET ASSY - rear cylinder	1
30	C 55956	PLUG - adjusting, socket assy	1
31	C 55957	SEAT - socket ball	2
32	C 56210	SPRING - socket	1
33	C 56209	SEAT - socket spring	1
34	G 45175	CLAMP ASSY - socket assy	1
35	16- 836	BOLT - 1/2" x 2-1/4" N.F. hex	1
36	132- 104	PIN - cotter, 3/16" x 3"	1
37	C 55889	STUD - ball, socket & cylinder	2
38	13- 410	BOLT - 1/4" x 5/8" N.C., hex	4
39	92- 4	LOCK WASHER - 1/4" SAE	4

PARTS ORDERS

All orders must include the following information:

1. Correct part number.
2. Complete description of part or component.
3. Total quantity of each part or component.
4. Product model number.
5. All necessary product identification numbers.
6. Method for sending the parts.
7. Complete and correct address.

CATALOG REVISIONS

As the product changes, new pages will be available for your catalog. A notice will be issued.

IMPORTANT: Put all revisions into the catalog as soon as possible.

RIGHT HAND AND LEFT HAND IDENTIFICATION

The words right hand (RH) and left hand (LH) as used in this catalog indicate the direction while you are in the operator's seat in the normal operating position.

ALPHABETICAL INDEX

ENGINE SECTION

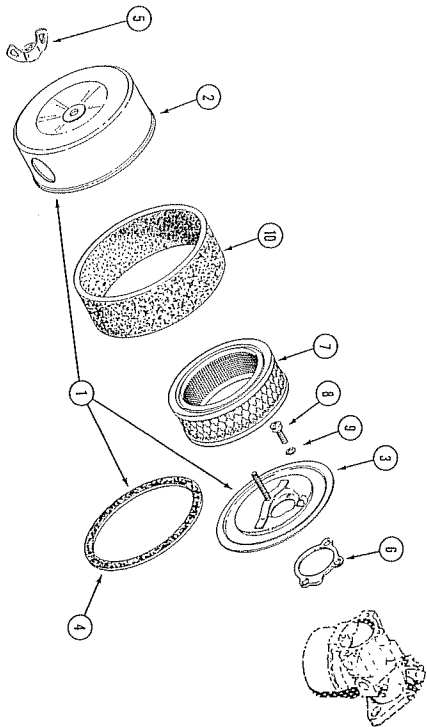
Air Cleaner	5	Flywheel	17-21
Battery	69-75	Fuel Pump	27
Breather Contacts	79	Fuel Strainer	27
Breather, Crankcase	7-9	Fuel System	27
Camshaft	7-9	Gasket Kits	23
Carburetor	27-29	Governor	31
Connecting Rod	11-15	Muffler	5
Crankshaft	11-15	Shields	25
Cylinder Block	17-21	Oil Pan	17-21
Cylinder Head	17-21	Piston	11-15
Electrical System	69-79	Spark Plug	69-75
Engine Block & Attaching Parts	17-21	Starter	67
Exhaust System	5	Tank, Fuel	27
Fan	35	Throttle Linkage	31
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Axle, Front	43	J17 and L17 Hydraulic PTO	101-103
Axle, Rear	51	L7 Holding Valve	109
Baffles & Shroud	25	L29 PTO	111
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Control, Speed	65	M19 Flow Control Valve Kit	107
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Fenders	41	Model F27 Three Point Hitch Adapter	95
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Grille	37-39	Model H18 Counterweight Brackets	99
Hitch	49	Model J30 Hydraulic Lift	91
Hood	37-39	Model K22 and K24 Sleeve Hitch	97
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Coupling, Pump Drive	57	Mounts, Heat Exchanger	25
Hoses, Lines & Fittings	53-55	N9 Holding Valve	109
Motor, Hydraulic Drive	63	PTO Clutch	107
Pump	57	PTO Control Valve Kit	33-35
Valve, Control	59-61	Reflector, rear	77
Linkage, Valve, Control	65	Seat, Operator's	41
Implement Lift Lever	49	Steering Wheel & Gear	45
Instruments	69-75	Tool Box	41
		Transmission	51
		Wheels, Front & Rear	47

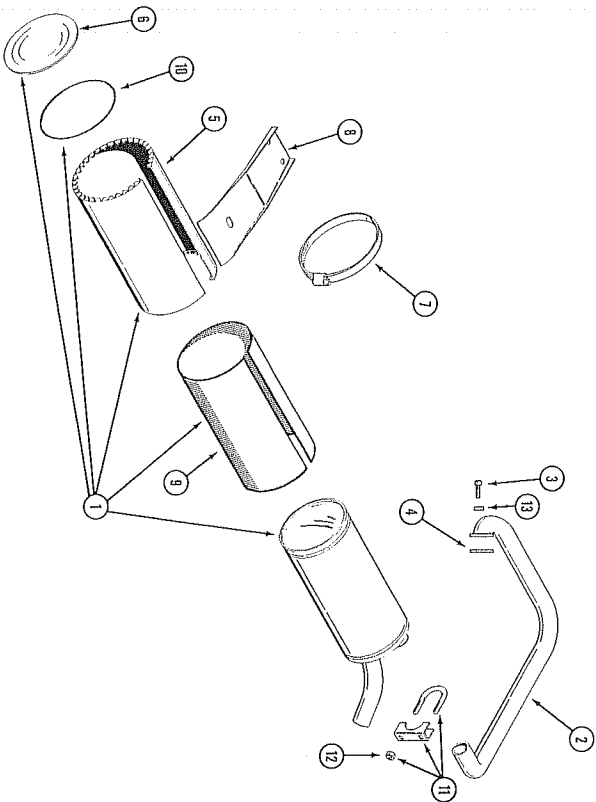
AIR CLEANER

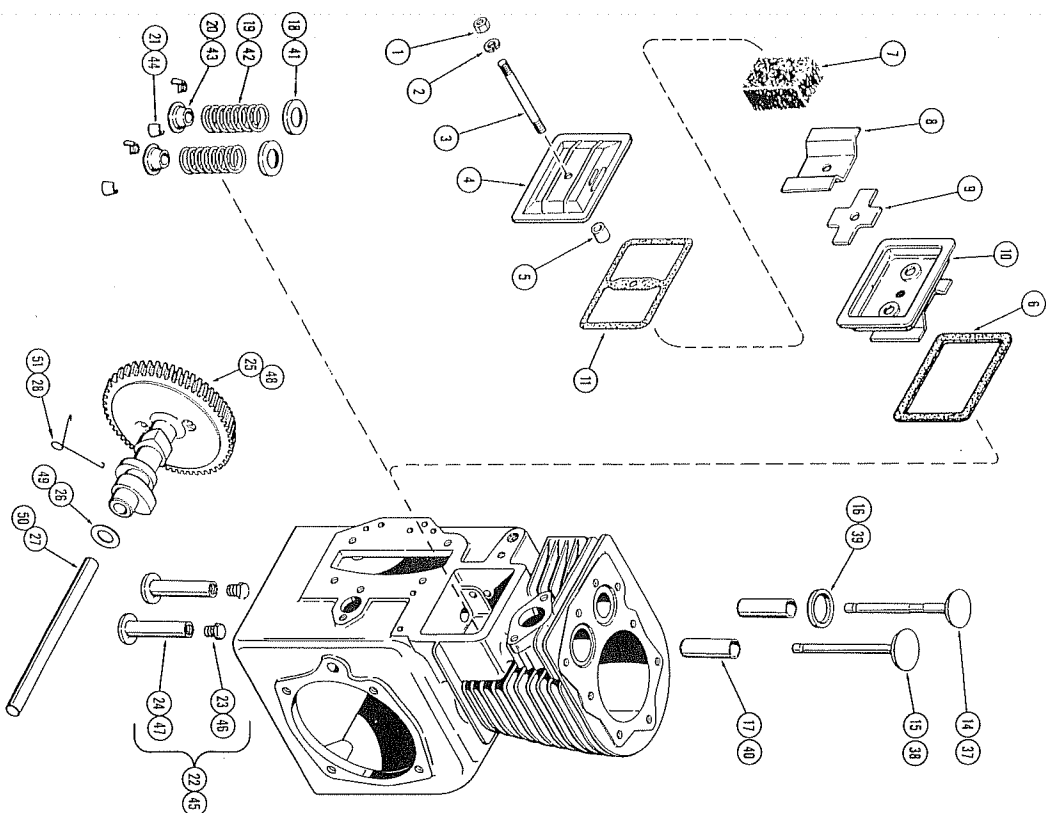
REF.	PART NO.	DESCRIPTION	REQ'D
1	KO 237895	AIR CLEANER ASSEMBLY	1
2	NSS	COVER - air cleaner (order KO237895)	1
3	NSS	BASE - air cleaner (order KO237895)	1
4	KO 237423	GASKET - cover, air cleaner	1
5	C 26703	NUT - wing 1/4" N.C.	1
6	KO 275341	GASKET - air horn	1
7	C 28883	ELEMENT - air cleaner	1
8	177- 94	SCREW - filler head 10-32 x 5/16"	3
9	193- 6	LOCKWASHER - ext. tooth # 10	3
10	KO 237421	PRE-CLEANER	1



EXHAUST SYSTEM

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 26063	MUFFLER ASSEMBLY - exhaust (includes items 9, 10, 13 and 14 banded together)	1
2	C 22747	PIPE - engine exhaust	1
3	61- 512	BOLT - 5/16" x 5/8" socket head	2
4	C 10372	GASKET - exhaust	1
5	C 26062	WRAPPER - muffler	1
6	C 22889	COVER - muffler end	1
7	214- 272	CLAMP - muffler and wrapper mounting	3
8	C 22819	BRACKET - muffler mounting	1
9	C 26068	INSULATION - muffler	1
10	C 29290	INSULATION - muffler end	1
11	C 28294	CLAMP - muffler	1
12	129- 102	NUT - 5/16" - 18 hex	2
13	192- 404	LOCK WASHER - 5/16"	2





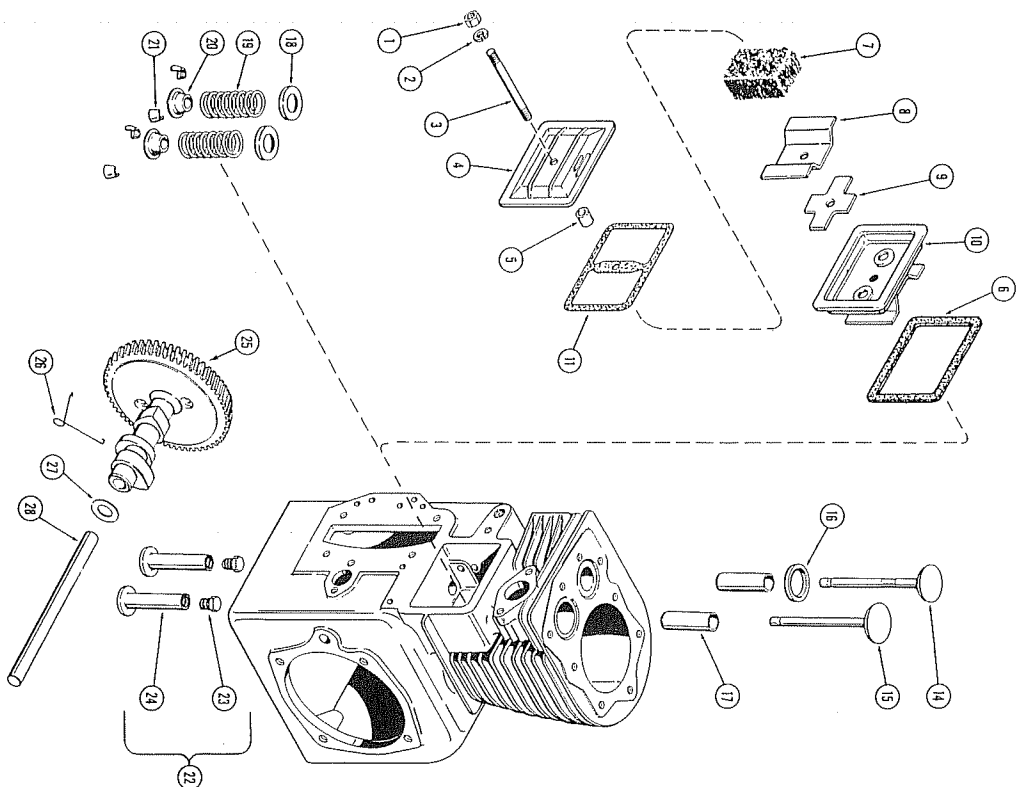
REF.	PART NO.	DESCRIPTION	REQ'D
1	129-101	NUT - 1/4" N.C. hex.	1
2	192-19	LOCK WASHER - 1/4"	1
3	KO 275220	STUD - valve cover	1
4	KO 275143	COVER - valve	1
5	KO 231032	SEAL - breather	1
6	KO 235048	GASKET - breather plate	1
7	KO 235118	FILTER - breather	1
8	KO 235117	BAFFLE - breather	1
9	KO 235047	REED - breather	1
10	KO 235631	PLATE - breather	1
11	KO 275144	GASKET - valve cover	1

220 CAMSHAFT AND VALVES

14	KO 235826	VALVE - exhaust	1
15	KO 235608	VALVE - intake	1
16	KO 230170	INSERT - exhaust valve seat	1
17	KO 235007	GUIDE - valve	2
18	KO 235011	SEAT - valve spring	2
19	KO 235010	SPRING - valve	2
20	KO 230011	RETAINER - valve spring	2
21	C 24894	KIT - valve retainer (includes both halves)	2
22	KOD 235327	LIFTER ASSEMBLY	2
23	NSS	SCREW - tappet adjusting	1
24	NSS	LIFTER - valve	1
25	C 25043	CAMSHAFT ASSEMBLY	1
26	KO 275066	SPACER - camshaft, .005" (0.13 mm)	1
27	KO 275067	SPACER - camshaft, .010" (0.25 mm)	1
28	C 30487	PIN - camshaft	1
	C 28680	SPRING - actuating	1

222 CAMSHAFT AND VALVES

REF.	PART NO.	DESCRIPTION	REQ'D
37	KO 235826	VALVE - exhaust	1
38	KO 235608	VALVE - intake	1
39	KO 230170	INSERT - exhaust valve seat	1
40	KO 235007	GUIDE - valve	2
41	KO 235011	SEAT - valve spring	2
42	KO 235010	SPRING - valve	2
43	KO 230011	RETAINER - valve spring	2
44	C 24894	KIT - valve retainer (includes both halves)	2
45	KOD 235327	LIFTER ASSEMBLY	2
46	NSS	SCREW - tappet adjusting	1
47	NSS	LIFTER - valve	1
48	C 25043	CAMSHAFT ASSEMBLY	1
49	KO 275066	SPACER - camshaft, .005" (0.13 mm)	1
50	KO 275067	SPACER - camshaft, .010" (0.25 mm)	1
51	C 30487	PIN - camshaft	1
	C 28680	SPRING - actuating	1



REF.	PART NO.	DESCRIPTION	RECD
1	129-101	NUT - 1/4" N.C. hex	1
2	192-19	LOCK WASHER - 1/4"	1
3	KO 275220	STUD - valve cover	1
4	KO 275143	COVER - valve	1
5	KO 231032	SEAL - breather	1
6	KO 235046	GASKET - breather plate	1
7	KO 235118	FILTER - breather	1
8	KO 235047	BAFFLE - breather	1
9	KO 235047	REED - breather	1
10	KO 235631	PLATE - breather	1
11	KO 275144	GASKET - valve cover	1

224 AND 444 CRANKCASE BREATHER

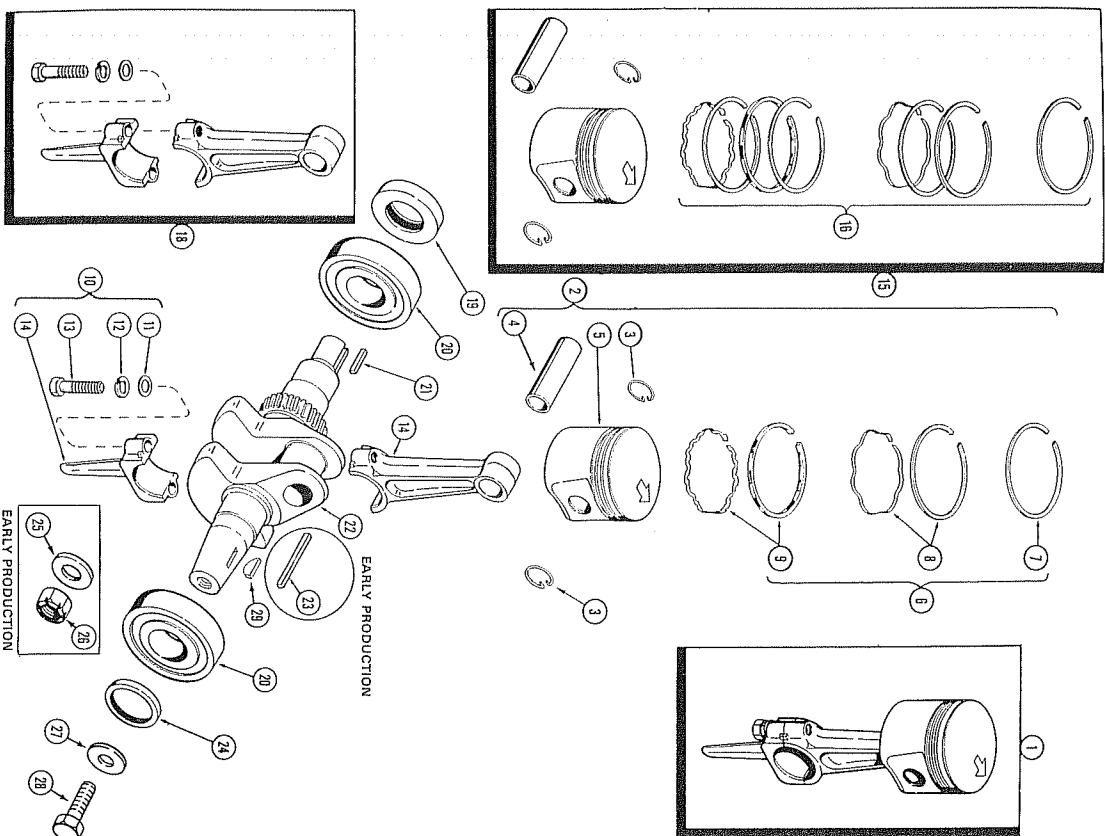
MODEL 220, 222, 224 AND 444 COMPACT TRACTORS

REF.	PART NO.	DESCRIPTION	RECD
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 24894	KIT - valve retainer (Includes both halves)	2
22	KOD 235327	LIFTER ASSEMBLY	2
23	NSS	SCREW - tappet adjusting	1
24	NSS	LIFTER - valve	1
25	C 25043	CAMSHAFT ASSEMBLY	1
26	C 28680	SPRING - actuating	1
27	KO 275066	SPACER - camshaft, .005" (0.13 mm)	UAR
28	KO 275067	SPACER - camshaft, .010" (0.25 mm)	UAR
	C 30487	PIN - camshaft	1

224 AND 444 CAMSHAFT AND VALVES

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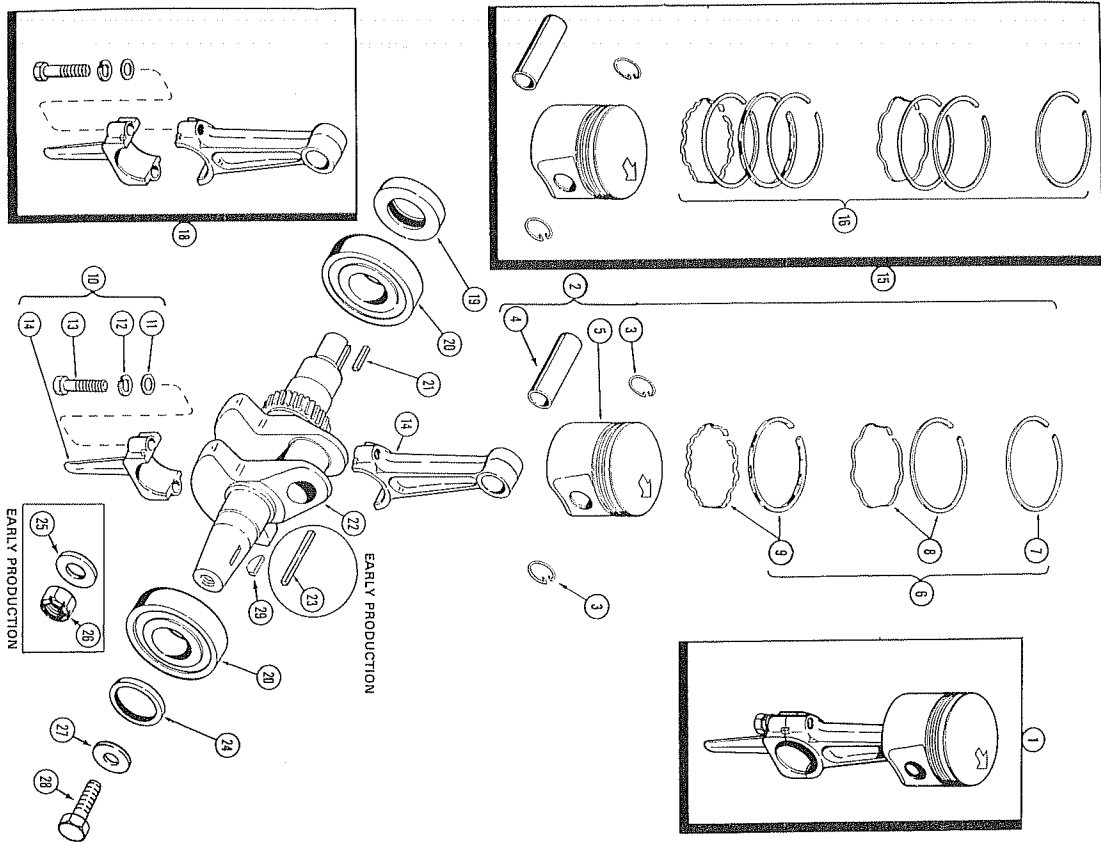
February 1992



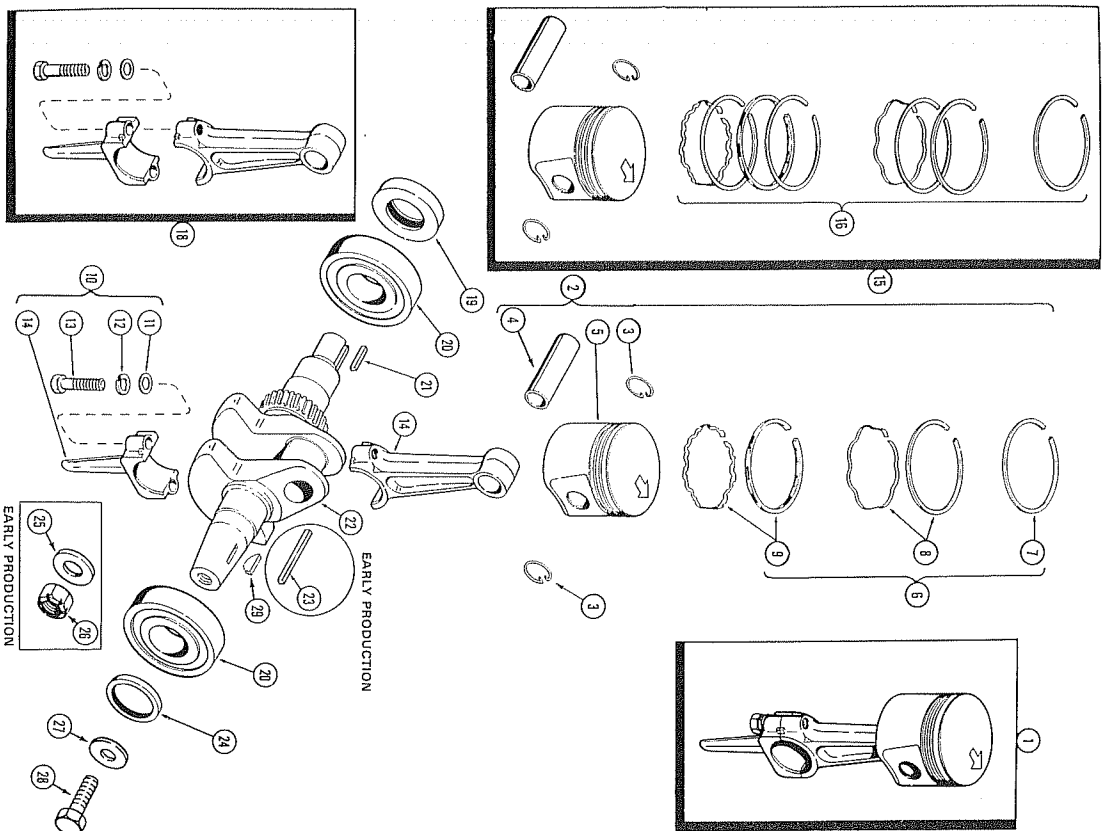
220 CRANKSHAFT, PISTON - CONNECTING ROD

REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	PISTON AND ROD ASSEMBLY (Std. size)	1
2	C 29516	PISTON ASSEMBLY (For oversize, see item 15)	1
3	KO 235004	RETAINER - piston pin	2
4	NSS	PIN - piston	1
5	NSS	PISTON	1
6	KO 235287	RING SET - piston (For oversize, see item 16)	1
7	NSS	RING - top compression	1
8	NSS	RING - 2nd compression (Includes expander)	1
9	NSS	RING - oil (Includes expander)	1
10	C 30484	CONNECTING ROD ASSEMBLY (For undersize, see item 18)	1
11	KO 235003	WASHER - special	2
12	192- 21	LOCK WASHER	2
13	NSS	SCREW - cap connecting rod	2
14	NSS	ROD - connecting	1
15	C 29518	PISTON ASSEMBLY - .010" (0.25 mm) oversize	1
15	C 29519	PISTON ASSEMBLY - .020" (0.51 mm) oversize	1
15	C 29520	PISTON ASSEMBLY - .030" (0.76 mm) oversize	1
15	C 29517	PISTON ASSEMBLY - .003" (0.08 mm) oversize (use std. ring set)	1
16	KO 235288	RING SET - piston .010" (0.25 mm) oversize	1
16	KO 235289	RING SET - piston .020" (0.51 mm) oversize	1
16	KO 235290	RING SET - piston .030" (0.76 mm) oversize	1
18	C 18101	CONNECTING ROD ASSEMBLY - .010" (0.25 mm) undersize	1
19	C 28678	OIL SEAL - crankshaft rear	1
20	C 28669	BEARING - ball, crankshaft	2
21	C 26321	KEY - 1/4" Sq. x 3/4" (Pump Coupling)	1
22	C 29025	KIT - crankshaft (Includes hardware, ref. 27, 28)	1
23	C 28289	KEY - flat 3/16" x 3/16" x 3/4" (Flywheel)	1
24	C 32991	OIL SEAL - crankshaft, front	1
25	C 26421	WASHER - 5/8"	1
26	131- 580	NUT - special Marsden 5/8" N.F.	1
27	C 29812	WASHER - flat	1
28	C 620	BOLT - 3/8" - 24 x 1-1/4"	1
29	NSS	KEY - 3/16" x 1" Woodruff, flywheel (obtain locally)	1

222 CRANKSHAFT, PISTON — CONNECTING ROD



REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	PISTON AND ROD ASSEMBLY (Std. size)	1
2	C 29521	PISTON ASSEMBLY (For oversize, see item 15)	1
3	KO 235004	RETAINER - piston pin	2
4	NSS	PIN - piston	1
5	NSS	PISTON	1
6	KO 235889	RING SET - piston (For oversize, see item 16)	1
7	NSS	RING - top compression	1
8	NSS	RING - 2nd compression (Includes expander)	1
9	NSS	RING - oil (Includes expander)	1
10	C 30483	CONNECTING ROD ASSEMBLY (For undersize, see item 18)	1
11	KO 235003	WASHER - special	2
12	192- 21	LOCK WASHER	2
13	NSS	SCREW - cap, connecting rod	2
14	NSS	ROD - connecting	1
15	C 29523	PISTON ASSEMBLY - .010" (0.25 mm) oversize	1
15	C 29524	PISTON ASSEMBLY - .020" (0.51 mm) oversize	1
15	C 29525	PISTON ASSEMBLY - .030" (0.76 mm) oversize	1
15	C 29522	PISTON ASSEMBLY - .003" (0.08 mm)oversize (use std. ring set)	1
16	KO 235890	RING SET - piston .010" (0.25 mm) oversize	1
16	KO 235891	RING SET - piston .020" (0.51 mm) oversize	1
16	KO 235892	RING SET - piston .030" (0.76 mm) oversize	1
18	C 23135	CONNECTING ROD ASSEMBLY - .010" (0.25 mm) undersize	1
19	C 28678	OIL SEAL - crankshaft rear	2
20	C 28669	BEARING - ball, crankshaft	1
21	C 28321	KEY - 1/4" Sq. x 3/4" (Pump Coupling)	1
22	KOB 236949	KIT - crankshaft (includes hardware, ref Z7.28)	1
23	C 28289	KEY - flat 3/16" x 3/16" x 3/4" (Flywheel)	1
24	C 32891	OIL SEAL - crankshaft, front	1
25	C 26421	WASHER - 5/8"	1
26	131- 590	NUT - special Marsden 5/8" N.F.	1
27	C 29812	WASHER - flat	1
28	28-	BOLT - 3/8" - 24 x 1-1/4"	1
29	NSS 620	KEY - 3/16" x 1" Woodruff (Flywheel) (obtain locally)	1



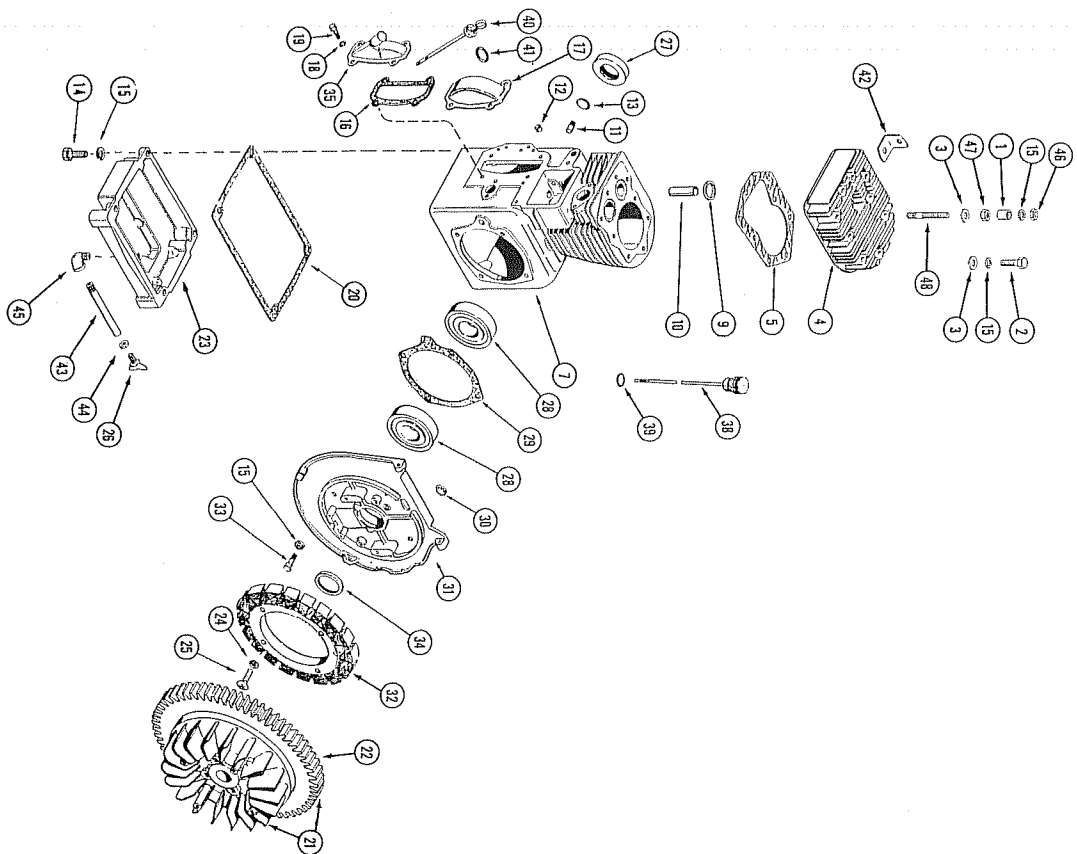
224 AND 444 CRANKSHAFT, PISTON — CONNECTING ROD

REF.	PART NO.	DESCRIPTION	RECD
1	NSS	PISTON AND ROD ASSEMBLY (Std. size)	1
2	23528	PISTON ASSEMBLY (For oversize, see item 15)	1
3	KO 235004	RETAINER - piston pin	2
4	NSS	PIN - piston	1
5	NSS	PISTON	1
6	KO 236763	RING SET - piston (For oversize, see item 16)	1
7	NSS	RING - top compression (Includes expander)	1
8	NSS	RING - 2nd compression (Includes expander)	1
9	NSS	RING - oil (Includes expander)	1
10	30483	CONNECTING ROD ASSEMBLY (For underside, see item 18)	1
11	KO 235003	WASHER - special	2
12	192-21	LOCK WASHER - 3/8"	2
13	NSS	SCREW - cap, connecting rod	2
14	NSS	ROD - connecting	1
15	23528	PISTON ASSEMBLY - .010" (0.25 mm) oversize	1
15	C 23530	PISTON ASSEMBLY - .020" (0.51 mm) oversize	1
15	C 23530	PISTON ASSEMBLY - .030" (0.76 mm) oversize	1
15	C 23530	PISTON ASSEMBLY - .003" (0.08 mm) oversize (use std. ring set)	1
16	KO 236764	RING SET - piston .010" (0.25 mm) oversize	1
16	KO 236766	RING SET - piston .020" (0.51 mm) oversize	1
16	KO 236766	RING SET - piston .030" (0.76 mm) oversize	1
18	C 23135	RING SET - piston .020" (0.51 mm) oversize	1
19	C 23678	CONNECTING ROD ASSEMBLY - .010" (0.25 mm) underside	1
20	C 28869	OIL SEAL - crankshaft, rear	1
21	C 28321	BEARING - ball, crankshaft	2
22	C 30504	KEY - 1/4" Sq. x 3/4" (Pump Coupling)	1
23	C 32829	KIT - crankshaft (Includes hardware, ref. 27, 28)	1
24	C 32891	KEY - flat 3/16" x 3/16" x 3/4" (Flywheel)	1
25	C 29421	OIL SEAL - crankshaft, front	1
26	131-580	WASHER - 5/8"	1
27	23912	NUT - special Marsden 5/8" N.F.	1
28	C 620	WASHER - flat	1
29	NSS	BOLT - 3/8" - 24 x 1-1/4"	1
		KEY - 3/16" x 1" woodruff (flywheel) obtain locally	1

220 ENGINE BLOCK AND ATTACHING PARTS

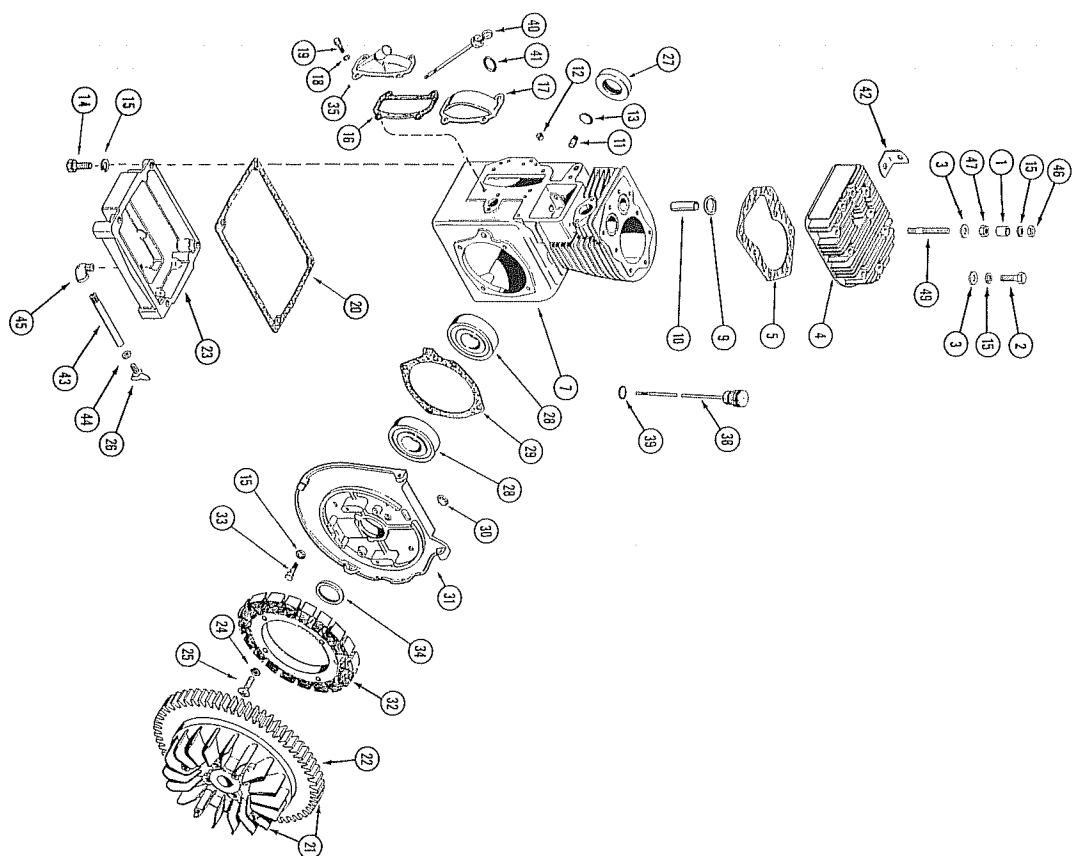
NOTE: To order complete engine see page 1.

REF.	PART NO.	DESCRIPTION	REC'D
1	C 21814	SPACER - cylinder head	6
2	KO 270158	BOLT - cylinder head	2
3	KO 270889	WASHER - cylinder head	9
4	KO 236675	HEAD - cylinder	1
5	C 30482	GASKET - head	1
7	C 27283	BLOCK ASSEMBLY - cylinder, short (includes crankshaft, piston assembly, ring set, crankshaft seals, rod assembly, camshaft assembly, valves, bearings, plate and plate gasket, governor gear assembly and cross shaft) (also includes gaskets)	1
9	KO 230170	INSERT - exhaust valve	1
10	KO 235007 S	GUIDE - valve	1
11	KO 235125 S	SHAFT - stud, governor	2
12	C 28691	BEARING - needle, governor shaft	1
13	C 18	PLUG - expansion	1
14	41- 18	BOLT - 3/8" x 1-1/2" N.C. hex plated	4
15	192- 209	LOCK WASHER - 3/8" plated	4
16	KO 235025	GASKET - camshaft cover	17
17	KO 235026	COVER - camshaft cover	1
18	192- 19	LOCK WASHER - 1/4" plated	1
19	113- 1	BOLT - 1/4" x 1/2" N.C. plated	4
20	KO 235353	GASKET - oil pan	1
21	C 27279	FLYWHEEL ASSEMBLY	1
22	NSS	RING GEAR	1
23	C 22699	BASE - oil pan	1
24	192- 18	LOCK WASHER - internal tooth	4
25	C 32947	SCREW - stator #10 - 24 x 3/4"	1
26	C 14399	PLUG - oil drain	4
27	C 28678	OIL SEAL - crankshaft rear	1
28	C 28689	BEARING - ball, crankshaft	2
29	KO 235757	GASKET - bearing plate	1
30	KO 235070	GASKET - shim, .010 (0.25 mm)	1
31	NSS	PLUG - burton, timing hole (obtain locally)	1
32	C 24290	PLATE - bearing	1
33	C 28692	STATOR - 15 amp	1
34	C 25338	CONNECTOR - stator	1
35	113- 207	BOLT - 3/8" x 1" N.C. plated	4
36	C 32891	OIL SEAL - crankshaft front	1
38	C 24490	FILLER TUBE - crankcase	1
39	NSS	DIPSTICK ASSEMBLY (use C30868 kit, includes plug)	1
40	C 28217	"O" RING - dipstick	1
41	C 24491	DIPSTICK - oil	1
42	C 28217	"O" RING - dipstick	1
43	KO 235748	STRAP - lifting	1
44	C 18914	NIPPLE - oil drain extension	1
45	C 14906	GASKET - plug, oil drain	1
46	221- 1412	ELBOW - street	1
47	129- 143	NUT - 3/8" N.C. hex, jam	6
48	129- 103	NUT - 3/8" N.C. hex	1
49	KO 237277	STUD - cylinder head	7
41-	1015	PLUG - weitch 15/16" x 1/2" (use to plug dipstick hole)	1



222 ENGINE BLOCK AND ATTACHING PARTS

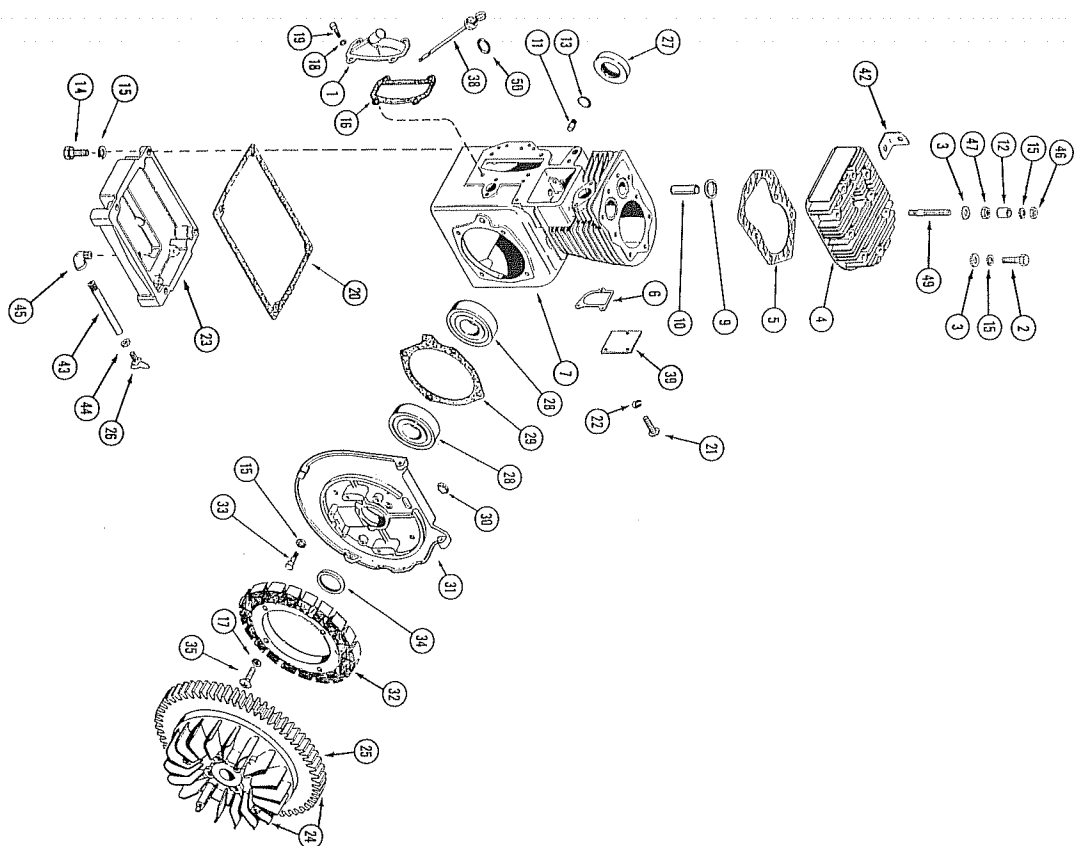
NOTE: To order complete engine see page 1.



REF.	PART NO.	DESCRIPTION	REC'D
1	21814	SPACER - cylinder head	6
2	KO 270158	BOLT - cylinder head 3/8" x 1-1/2" N.C. hex	2
3	KO 270899	WASHER - cylinder head	9
4	KO 237670	HEAD - cylinder	1
5	C 30482	GASKET - head	1
7	C 30505	BLOCK ASSEMBLY - cylinder, short (includes crankshaft, piston assembly, ring set, crankshaft seals, rod assembly, camshaft assembly and cross shaft) (also includes gasket set) and hardware for mty. flywheel	1
9	KO 230170	INSERT - exhaust valve	1
10	KO 235007	GUIDE - valve	2
11	KO 235125	SHAFT - stud, governor	1
12	C 28691	BEARING - needle, governor shaft	1
13	41-18	PLUG - expansion	1
14	113-209	BOLT - 3/8" x 1-1/2" N.C. hex plated	4
15	192-21	LOCK WASHER - 3/8" plated	17
16	KO 235025	GASKET - camshaft cover	1
17	KO 235026	COVER - camshaft gear	1
18	192-19	LOCK WASHER - 1/4" plated	4
19	113-1	BOLT - 1/4" x 1/2" N.C. plated	4
20	KO 235353	GASKET - oil pan	1
21	C 27279	FLYWHEEL ASSEMBLY	1
22	NSS	RING GEAR	1
23	C 22699	BASE - oil pan	1
24	192-18	LOCK WASHER - internal tooth	4
25	C 32847	SCREW - stator	4
26	C 14399	PLUG - oil drain	1
27	C 28678	OIL SEAL - crankshaft rear	1
28	C 28669	BEARING - ball, crankshaft	2
29	KO 235757	GASKET - bearing plate	1
30	KO 235070	GASKET - shim, .010" (0.25 mm)	1
31	NSS	PLUG - button, timing hole (obtain locally)	1
32	C 24290	PLATE - bearing	1
33	C 28692	STATOR	1
34	C 25338	CONNECTOR - stator	1
35	113-207	BOLT - 3/8" x 1" N.C. plated	4
36	C 32891	OIL SEAL - crankshaft, front	1
37	C 24490	FILLER TUBE - crankcase	1
38	NSS	DIPSTICK ASSEMBLY (use C30668 kit - includes welsh plug)	1
39	C 28217	"O" RING - dipstick	1
40	C 24491	DIPSTICK - oil	1
41	C 28217	"O" RING - dipstick	1
42	KO 235748	STRAP - lifting	1
43	C 18814	NIPPLE - oil drain extension	1
44	C 14906	GASKET - plug, oil drain	1
45	221-1412	ELBOW - street	1
46	129-143	NUT - 3/8" N.C. hex, jam	6
47	129-103	NUT - 3/8" N.C. hex	6
49	KO 237277	STUD - cylinder head	7

224 AND 444 ENGINE BLOCK AND ATTACHING PARTS

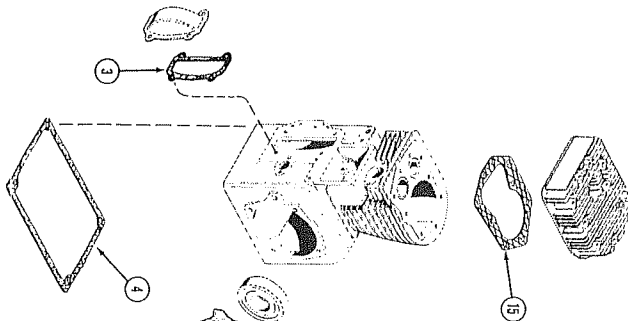
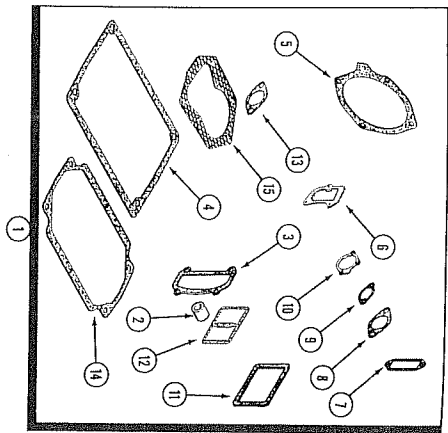
NOTE: To order complete engine see page 1.



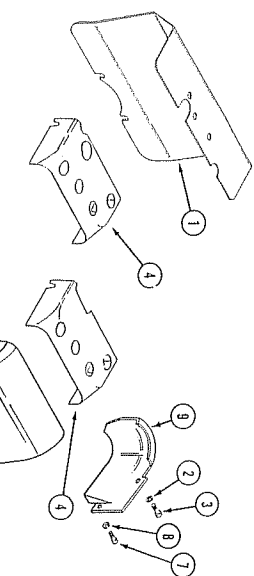
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 24490	FILLER TUBE	1
2	KO 270158	BOLT - cylinder head special 3/8" x 1-1/2" N.C. hex	2
3	KO 270889	WASHER - cylinder head bolt	9
4	KO 237670	HEAD - cylinder	1
5	C 30482	GASKET - head	1
6	KO 237064	GASKET - filler tube	1
7	C 30506	BLOCK ASSEMBLY - cylinder, short (includes crankshaft and seals, ring set, piston assembly, rod assembly, camshaft assembly, valves, bearing, plate and plate gasket, governor gear assembly and cross shaft) (also includes gasket set)	1
9	KO 230170	INSERT - exhaust valve	1
10	KO 236007 S	GUIDE - valve	1
11	KO 236125 S	SHAFT - stub, governor	2
12	C 21814	SPACER - cylinder head	1
13	41- 18	PLUG - expansion	1
14	113- 209	BOLT - 3/8" x 1-1/2" N.C. hex plated	1
15	192- 21	LOCK WASHER - 3/8" plated	4
16	KO 236025	GASKET - camshaft cover, oil fill tube	4
17	192- 18	LOCK WASHER	4
18	192- 19	LOCK WASHER - 1/4" plated	4
19	113- 1	BOLT - 1/4" x 1/2" N.C. plated	4
20	KO 236363	GASKET - oil pan	1
21	173- 96	SCREW - #10 x 7/16" round head machine	3
22	192- 18	LOCK WASHER - #10 internal tooth	1
23	C 22669	BASE - oil pan	1
24	C 27279	FLYWHEEL ASSEMBLY	1
25	NSS	RING GEAR	1
26	14399	PLUG - oil drain	1
27	C 28678	OIL SEAL - crankshaft, rear	1
28	C 28669	BEARING - ball, crankshaft	1
29	KO 236757	GASKET - bearing plate	2
30	KO 236070	GASKET - shim, .010" (0.25 mm)	1
31	NSS	PLUG - button, timing hole (obtain locally)	1
32	24290	PLATE - bearing	1
33	C 28692	STATOR	1
34	113- 207	BOLT - 3/8" x 1" N.C. plated	4
35	C 32891	OIL SEAL - crankshaft, front	1
36	C 32947	SCREW - stator	4
38	C 24491	DIPSTICK ASSEMBLY	1
39	NSS	COVER - use C27275	1
42	KO 236748	STRAP - lifting	1
43	C 18814	NIPPLE - oil drain extension	1
44	C 14906	GASKET - plug, oil drain	1
45	221- 1412	ELBOW - street	1
46	129- 143	NUT - 3/8" N.C. hex, jam	6
47	129- 103	NUT - 3/8" N.C. hex	6
49	KO 237277	STUD - cylinder head	7
50	C 28217	O-RING - dipstick	1

ENGINE GASKET AND SEAL KIT

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 29737	KIT - engine gasket	1
2	KO 231032	SEAL - breather	1
3	KO 235025	GASKET - camshaft cover	1
4	KO 235353	GASKET - oil pan	1
5	KO 235757	GASKET - bearing plate	6
6	KO 235070	GASKET - shim, .010" (0.25 mm)	UAR
7	KO 237064	GASKET - oil fill tube	1
8	C 25518	GASKET - breaker cover	1
9	C 23860	GASKET - carburetor cover	1
10	C 24897	GASKET - carburetor flange	1
11	KO 275341	GASKET - fuel pump flange	1
12	KO 235048	GASKET - carburetor air horn	1
13	KO 275144	GASKET - breather plate	1
14	C 10372	GASKET - valve plate	1
15	KO 235057	GASKET - exhaust	1
	C 30482	GASKET - pan (not used)	1
		GASKET - cylinder head	1

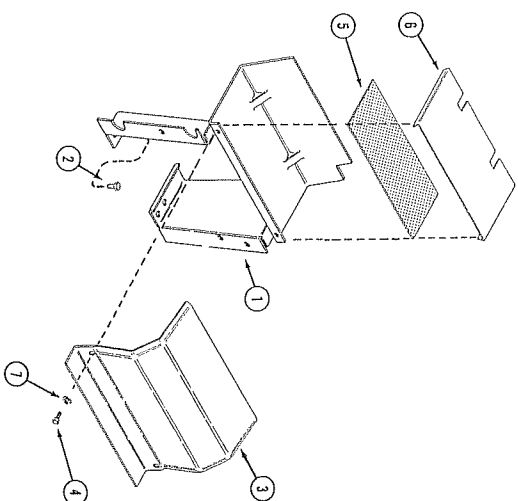


BAFFLES AND SHROUDS

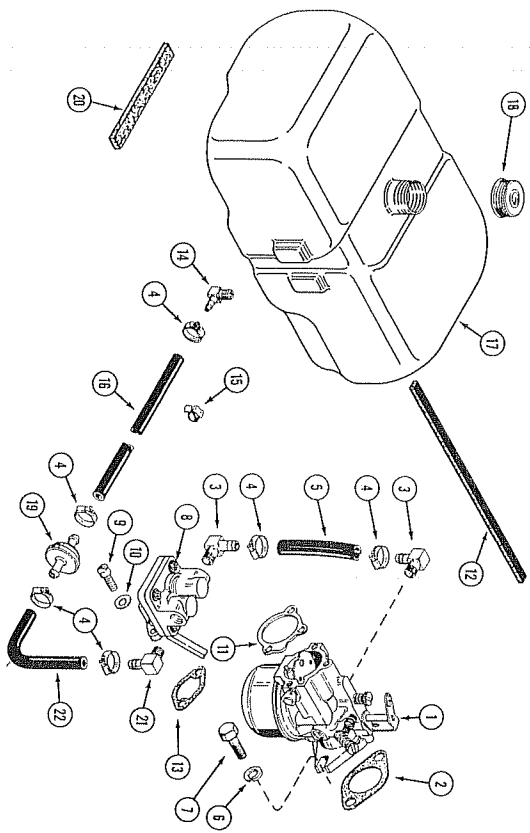
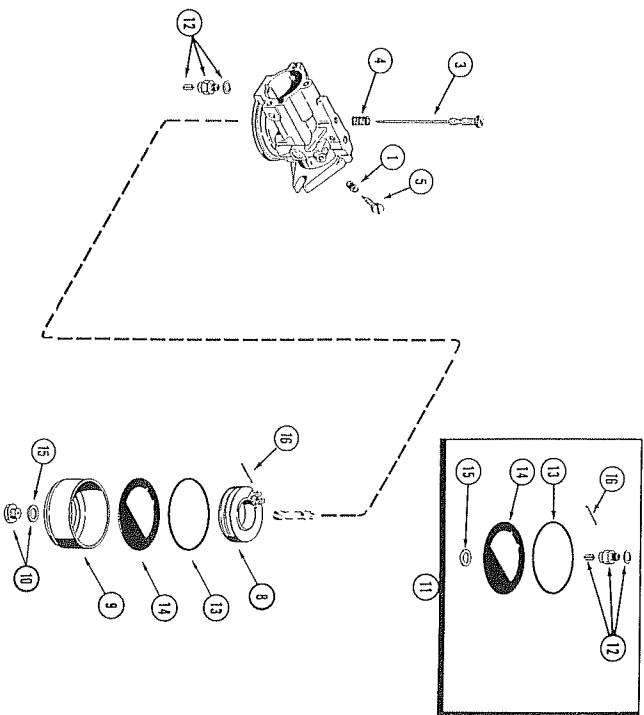


REF.	PART NO.	DESCRIPTION	REQ'D
1	C 26985	DEFLECTOR - engine air	1
2	192- 19	LOCK WASHER - 1/4" zinc plated	2
3	113- 1	BOLT - 1/4" x 1/2" N.C. hex, zinc plated	2
4	KO 237520	BAFFLE - cylinder head (10 hp engine)	1
5	KO 237677	BAFFLE - cylinder head (12-14 hp engine)	1
6	C 27280	BAFFLE - carburetor side air	1
7	C 24879	HOUSING - blower	1
8	113- 2	BOLT - 1/4" x 3/4" N.C. hex, zinc plated	4
9	192- 19	LOCK WASHER - 1/4" zinc plated	4
	C 27281	BAFFLE - cylinder	1

HEAT EXCHANGER MOUNTS AND MUFFLER SHIELDS



1	C 27602	SUPPORT - heat exchanger	1
2	113- 118	BOLT - 5/16" x 5/8"	4
3	C 26098	SHIELD - heat, muffler	1
4	113- 1	BOLT - 1/4" x 1/2" hex z.p.	2
5	187- 1036	BOLT - 1/4" x 1/2" self - tap	2
6	C 22903	PAD - insulation	1
7	C 22874	RETAINER - insulation	1
	192- 19	LOCK WASHER - 1/4"	2



REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	CARBURETOR ASSEMBLY - 220, 222 (use C33213)	1
2	NSS	CARBURETOR ASSEMBLY - 224 B 444 (use C33214)	1
3	A 72098	SPRING - tension, idle adjust.	1
4	C 28879	NEEDLE - main fuel adjust, 220, 222	1
5	C 24652	NEEDLE - main fuel adjust, 224 B 444	1
6	C 200383	SPRING - main fuel adjust	1
7	C 28880	NEEDLE - idle adjust (220, 222)	1
8	KO 275231	NEEDLE - idle adjust (224 B 444)	1
9	C 27276	FLOAT - carburetor	1
10	KO 235448	BOWL - carburetor	1
11	C 26422	SCREW AND GASKET ASSEMBLY - carburetor bowl	1
12	C 27278	INLET NEEDLE AND SEAT ASSEMBLY	1
13	NSS	GASKET - bowl ring	1
14	C 27277	GASKET - bowl baffle	1
15	NSS	GASKET - bowl screw	1
16	C 28676	PIN - float	1

FUEL SYSTEM

REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	CARBURETOR - 224 B 444 (use C33214)	1
2	NSS	CARBURETOR - 220 B 222 (use C33213)	1
3	C 23880	GASKET - carburetor flange	1
4	C 10678	ELBOW - fuel pump and carburetor	1
5	C 214-103	CLAMP - hose 1/2"	2
6	NSS	HOSE - carburetor 5-1/4" (use C28937 cut to length)	1
7	192-20	LOCK WASHER 5/16"	2
8	113-103	BOLT - 5/16" x 1" N.C. hex	2
9	C 24851	PUMP - fuel, all models (includes gasket & washers)	1
10	71-412	SCREW - 1/4" x 3/4" N.C. filler head	2
11	NSS	LOCKWASHER - 1/4" (obtain locally)	2
12	KO 275341	GASKET - air horn	1
13	C 23527	LINER - fuel tank	1
14	C 24887	GASKET - fuel pump mounting, all models	1
15	C 10657*	ELBOW ASSEMBLY - fuel tank, filter	1
16	C 10678**	ELBOW - hose 90° (shown)	1
17	NSS	CLIP - fuel line	2
18	C 28940**	HOSE - fuel line 31-1/2" (use C28937 cut to length)	1
19	C 11529	TANK - fuel (use C28940, C31978 and (2) 214-103)	1
20	C 29296**	TANK - fuel tank (includes insert)	1
21	C 14690	FILTER - fuel	1
22	C 217-292	CUSHION - fuel tank	1
		HOSE - fuel line 7" (use C28937 cut to length)	1

*Use before S/N
220 - 14068705
222 - 14069642
224 - 14070741
444 - 14072850

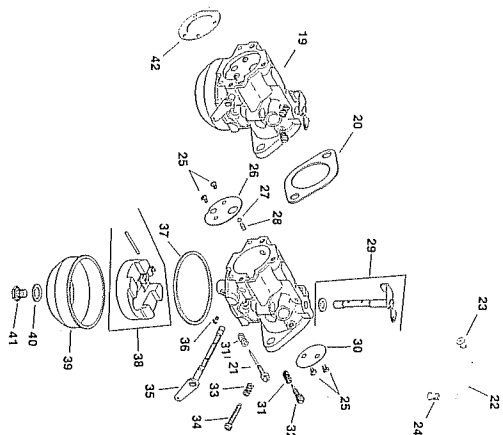
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February 1992

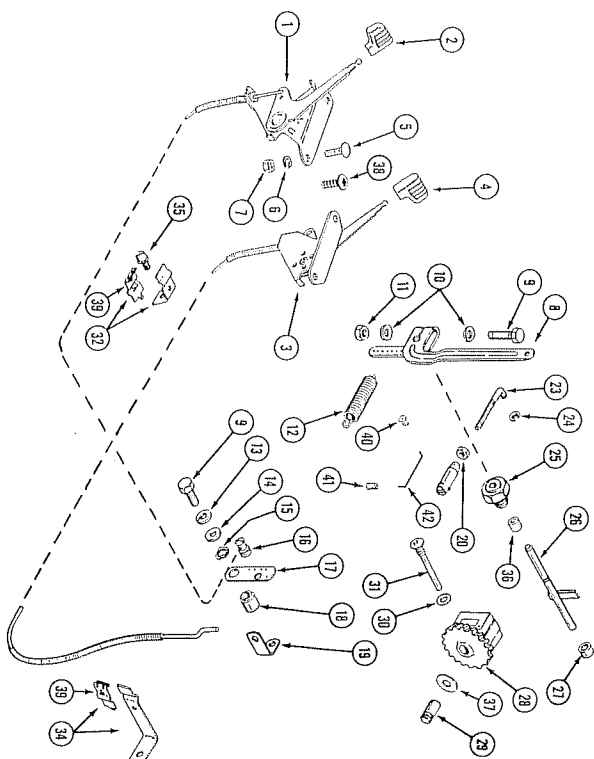
KOHLER CARBURETOR

With adjustable main fuel jet

WALBRO CARBURETOR
With Fixed and Adjustable Main Fuel Jet



REF.	PART NO.	DESCRIPTION	REQ'D
19	NSS	CARBURETOR ASSEMBLY - 220, 222 (Use C33213)	1
20	NSS	CARBURETOR ASSEMBLY - 224, 444 (Use C33214)	1
21	C	GASKET - carburetor mounting	1
22	C	NEEDLE - main fuel adjust	1
23	C	LINKAGE - carburetor	1
24	C	BUSHING - retaining (natural)	1
25	C	BUSHING - retaining (yellow)	1
26	C	SCREW - throttle and choke plate	4
27	C	PLATE - choke (220, 222)	1
28	C	PLATE - choke (224, 444)	1
29	C	BALL - choke friction	1
30	C	SPRING - choke friction	1
31	C	SHAFT - throttle (includes lever and seal) 220, 222	1
32	C	SHAFT - throttle (includes lever and seal) 224, 444	1
33	C	PLATE - 220, 222	1
34	C	PLATE - throttle 224, 444	1
35	C	SPRING - idle fuel	1
36	C	NEEDLE - idle fuel adjust	1
37	C	SCREW - idle speed	1
38	C	SCREW - idle speed adjust	1
39	C	LEVER - choke	1
40	C	JET - main fuel, fixed 220, 222	1
41	C	JET - main fuel, fixed 224, 444	1
42	C	GASKET - bowl	1
		GASKET - bowl	1
		KIT - float	1
		BOWL - fuel	1
		GASKET - bowl retaining screw	1
		SCREW - bowl retaining	1
		GASKET - air cleaner	1
		KIT - carburetor repair	1



MODEL 220, 222, 224 AND 444 COMPACT TRACTORS

CHOKE, THROTTLE AND GOVERNOR

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 33411	CONTROL - throttle	1
1	C 33412	CONTROL - throttle	1
2	NSS 25605*	HANDLE - throttle control, orange (use C35291)	1
3	C 30076*	CONTROL - choke	1
3	C 30074	HANDLE - choke control, black	1
4	111- 5	BOLT - No. 10 - 24 x 5/8" carriage	2
5	192- 18	LOCK WASHER - No. 10	2
6	129- 17	NUT - No. 10 - 24	2
7	129- 17	LEVER - governor	1
8	113- 17	BOLT - 1/4" x 1 1/4" N.C. hex	2
9	195- 518	WASHER - 1/4" plated	2
10	129- 101	SPRING - governor	1
11	KO 235496	LOCK WASHER - 1/4" plated	1
12	192- 19	WASHER - thrust	1
13	C 18098	WASHER - wavy	1
14	KO 275690	CLAMP - swivel, wire (use C32935)	1
15	NSS	LEVER - speed control	1
16	KO 235086	SPACER - speed control bracket	1
17	KO 235085	BRACKET - high speed stop	1
18	KO 235084	NUT - No. 10 - 32 hex	1
19	129- 37	JOINT - ball	1
20	C 25020	ROD - throttle	1
21	KO 235277	RING - retaining, throttle rod	1
22	C 28670	BUSHING - governor cross shaft	1
23	KO 235476	SHAFT - governor cross	1
24	C 23126	BEARING - needle, governor shaft	1
25	C 28691	GEAR ASSEMBLY - governor	1
26	C 27274	SHAFT - governor stop pin	1
27	KO 236125S	WASHER - governor stop pin	1
28	C 18099	PIN - governor stop	1
29	C 28690	BRACKET - throttle cable	1
30	KOA 236919	BRACKET - choke cable	1
31	182- 516	SCREW - No. 10 x 3/8" N.C. filler head	1
32	C 28878	SPACER - shaft (used engine S/N 3173783 and after)	1
33	KO 237022	WASHER - spacer	1
34	182- 559	BOLT - No. 10 - 24 x 3/4" phillips, black	2
35	KO 235603	CLIP - cable	1
36	C 32860	BUSHING - retaining (natural)	1
37	C 32861	BUSHING - retaining (yellow)	1
38	C 32926	LINKAGE - governor	1
39			
40			
41			
42			

*Use before S/N

**Use S/N and after:

220 - 14091130 222 - 14092090

224 - 14093065 444 - 14094825

ENGINE MOUNT PLATES

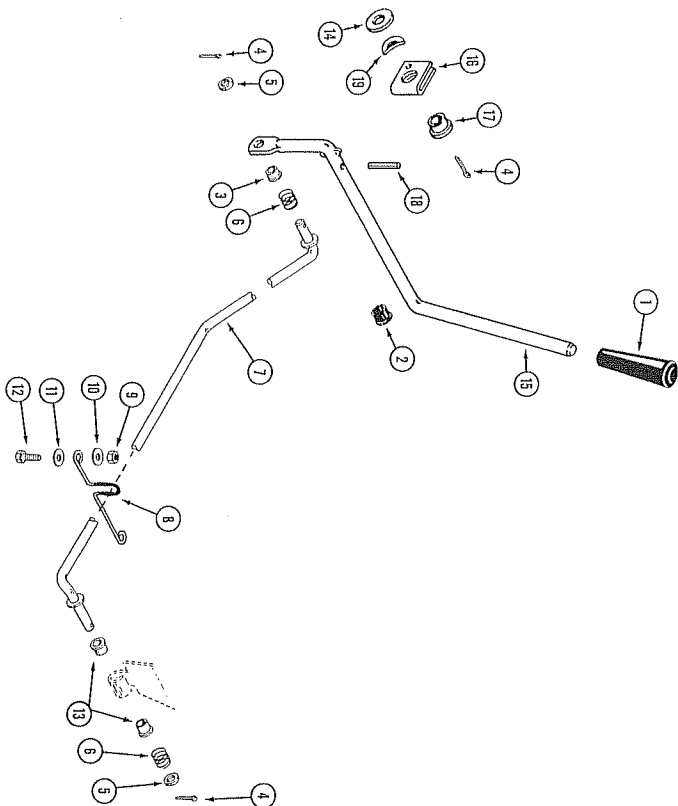
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 17717	PLATE - engine mount L.H.	1
2	C 17718	PLATE - engine mount R.H.	1
3	C 29731	MOUNT - engine	4
4	C 25556	WASHER - snubbing	4
5	151- 539	RIVET - 3/16"	16
6	113- 219	BOLT - 3/8" x 2" N.C. hex	4
7	192- 21	LOCK WASHER - 3/8"	4
8	193- 56	LOCK WASHER - 3/8" countersunk external tooth	4
9	164-	BOLT - flat head hex socket	4

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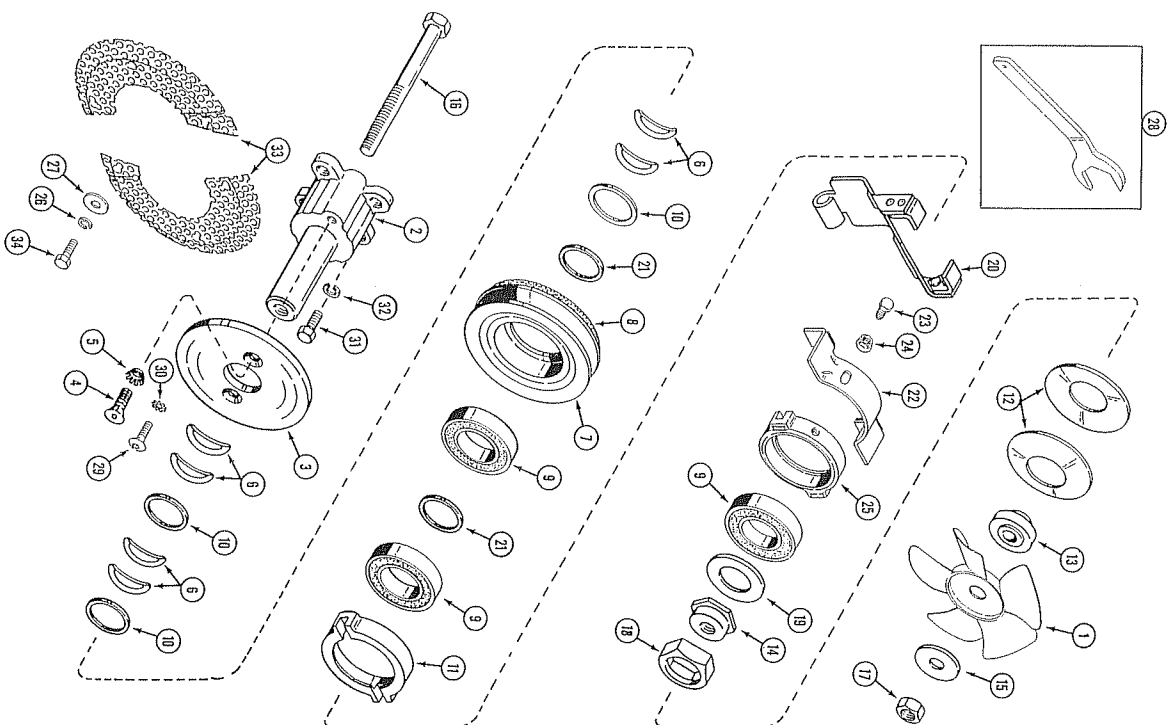
February 1992

PTO CLUTCH LINKAGE

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 29046	KNOB - lever, PTO	1
2	353- 462	BUSHING - lever, dash tower	1
3	C 20093	BUSHING - fliplock	1
4	132- 310	PIN - cotter 1/8" x 1"	2
4	132- 320	PIN - cotter 3/32" x 3/4"	2
5	C 14906	WASHER - nylon 3/8" (early production)	2
6	C 19867	SPRING - clutch rod (early production)	2
7	C 27734*	ROD - clutch	1
8	C 30488	GUIDE - clutch rod	1
9	131- 1181	NUT - lock 3/8" N.C. hex	2
10	195- 104	WASHER - 3/8"	2
11	195- 137	WASHER - spacer (used on models without hyd. lift)	2
12	113- 207	BOLT - 3/8" x 1" N.C. hex	2
13	C 20053	BUSHING - nylon	2
14	195- 533	WASHER - 1/2"	1
15	C 29409	LEVER - PTO engaging	1
16	C 26264	BRACKET - support, PTO lever	1
17	C 26266	BUSHING - flange, nylon	1
18	138- 63	PIN - roll 1/8" x 1-1/4"	1
19	C 28288	WASHER - spring	1



* when replacing early style clutch rod:
1. discard nylon washers and springs
2. also requires (2) 132-320 cotter pins



REF.	PART NO.	DESCRIPTION	REQD
1	31024	CLUTCH FAN ASSEMBLY	1
2	16616	FAN - cooling	1
3	23677	HUB - clutch	1
3	29766**	PLATE - clutch	1
4	15718*	PLATE - clutch	1
5	164- 40*	SCREW - 5/16" - 18 x 3/4"	2
6	15515	WASHER - 5/16" - 18 x 3/4"	2
7	31045	LOCK WASHER - 5/16" countersunk external tooth	2
8	23740	WASHER - spring	6
9	29795	KIT - pulley and disc assembly (includes item 21)	1
10	15557	KIT - friction disc	1
11	32169	BEARING - ball	3
12	16786	CAM - clutch	2
13	23630	SPRING - clutch load	2
14	23625	SPACER - clutch	1
15	28677	NUT - adjust	1
16	24743	WASHER - fan 17/32"	1
17	125	BOLT - 1/2" - 20 x 5-1/2" N.F.	1
18	23627	NUT - 1/2" - 20 N.F. lock	1
19	23624	GUIDE - adjusting nut	1
20	26166	WASHER - spacer	1
21	29811	ARM - engaging	1
22	31018	SPACER - washer .100"	1
23	113-	CLEVIS - PTO brake	2
24	934	BOLT - 1/4" - 20 x 3/4"	2
25	32168	NUT - 1/4" - 20 flange lock	1
26	192-	CAM - clutch	1
27	195-	LOCK WASHER - 1/4"	4
28	29772	WASHER - 1/4"	4
29	541**	WRENCH - clutch adjust	1
30	193-	SCREW - socket hd. 5/16" - 18 x 3/4"	1
31	95**	LOCK WASHER - external tooth	2
32	207	BOLT - 3/8" - 16 x 1" N.C.	4
33	192-	LOCK WASHER - 3/8"	4
34	26756	SCREEN - grass	2
	113-	BOLT - 1/4" - 5/8"	4

*Use before S/N:

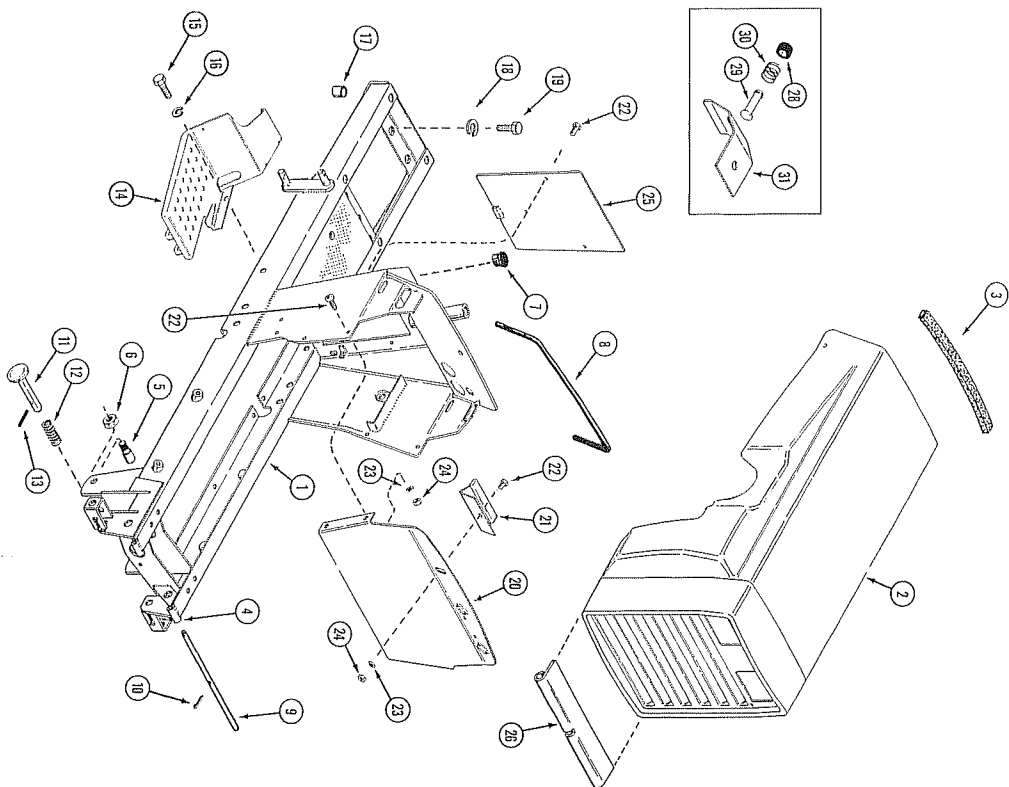
**Use S/N and after:

220 - 14091116

222 - 14092063

224 - 14093038

444 - 14094612



HOOD, FRAME AND GRILLE

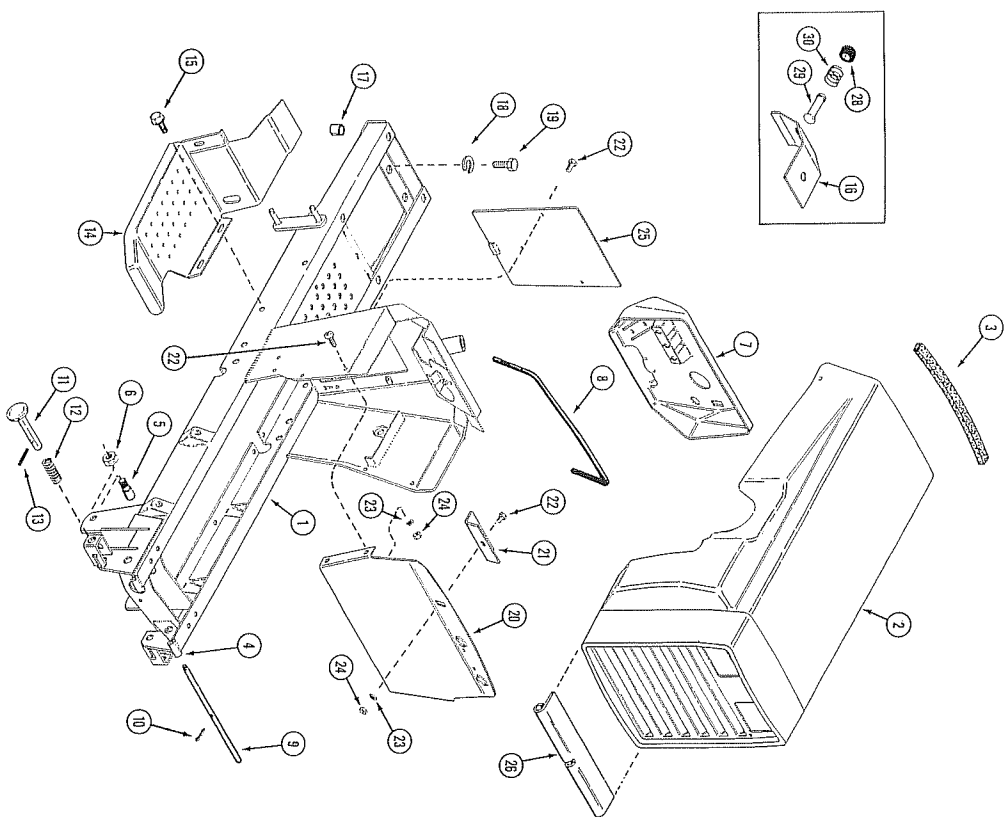
Use before S/N:
220 - 14091130 222 - 14092090
224 - 14093065 444 - 14094825

REF.	PART NO.	DESCRIPTION	REQD
1	26938*	FRAME - main (220, 222 and 224)	1
1	26940*	FRAME - main (444)	1
1	29717**	FRAME - main (220, 222, and 224) shown	1
1	29718**	FRAME - main (444)	1
2	26815*	HOOD AND GRILLE ASSEMBLY (includes item 26)	1
2	30715**	HOOD AND GRILLE ASSEMBLY - (includes item 26)	1
3	23627	LINER - hood	1
4	22023	HINGE - frame	2
5	27508	PIN - attachment	2
6	1318	NUT - lock 1/2" N.F.	2
7	353	PLUG - hole (models without hydraulic lift)	1
8	18153	CHANNEL - instrument panel	1
9	16362	ROD - hood hinge	1
10	132-	PIN - cotter 1/8" x 3/4"	1
11	16373	PIN - latch	2
12	24137	SPRING - latch	2
13	138-	PIN - roll 3/16" x 1-1/4"	2
14	25317	PAD - foot rest, L.H.	1
14	25318	PAD - foot rest, R.H.	1
16	514	BOLT - 5/16" x 7/8" N.C. hex	4
16	192-	LOCK WASHER - 5/16"	4
17	14729	SPACER - frame, rear (444)	2
17	14730	SPACER - frame, rear (220, 222 and 224)	2
18	192-	LOCK WASHER - 1/2"	4
19	424	BOLT - 1/2" x 1" N.C. hex	4
20	24821*	SHIELD - heat	1
20	30143*	SHIELD - heat (shown)	1
21	24820*	CLIP - battery hold down	1
21	29308**	CLIP - battery hold down	1
22	182-	SCREW - 1/4" 20 x 1 1/2" pan hd.	9
22	547	SCREW - 1/4" 20 x 1 1/2" pan hd.	7
23	192-	LOCK WASHER - 1/4"	5
24	101	NUT - 1/4" - 20	1
25	26506	COVER - access	1
26	16361	HINGE - hood	2
27	1036	SCREW - 1/4" - 20 x 1 1/2"	1
28	29314**	BUTTON - push, hood release	1
29	29315**	ROD - push, hood release	1
30	30004**	SPRING - release	1
31	33467**	LATCH - hood	1

*Use before S/N:
**Use S/N and after:
220 - 14068672
222 - 14069604
224 - 14070707
444 - 14072835

HOOD, FRAME AND GRILLE

Use S/N and after:

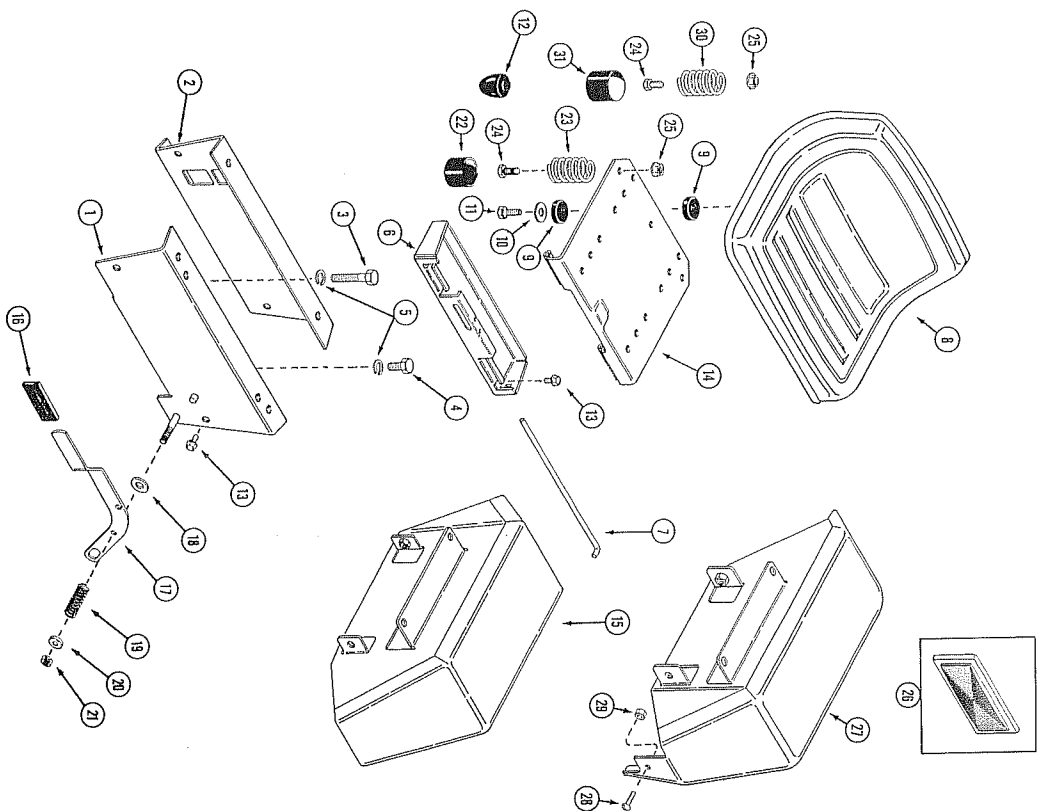
 220 - 14091130 222 - 14092090
 224 - 14093065 444 - 14094825


REF.	PART NO.	DESCRIPTION	REQ'D
1	C 30524*	FRAME - main (220, 222, and 224) shown	1
1	C 30525*	FRAME - hood (444)	1
2	C 30115	HOOD AND GRILLE ASSEMBLY (includes item 26)	1
3	C 22627	LINER - hood	1
4	C 22023	HINGE - frame	2
5	C 27508	PIN - attachment	2
6	C 1318	NUT - lock 1/2" N.F.	2
7	C 30134	CAP - instrument panel	1
8	C 16362	ROD - hood hinge	1
9	C 132-	PIN - cotter 1/8" x 3/4"	1
10	C 334	PIN - latch	2
11	C 16373	SPRING - latch	2
12	C 24137	PIN - roll 3/16" x 1 1/4"	2
13	C 2073	PAD - foot rest, L.H. (220, 222, 224)	1
14	C 30488	PAD - foot rest, R.H. (220, 222, 224) shown	1
14	C 30460	PAD - foot rest, L.H. (444)	1
14	C 30462	PAD - foot rest, R.H. (444)	1
15	C 30464	BOLT - 5/16" x 1 1/2" N.C. hex	4
16	C 106	LATCH - hood	1
17	C 33467	SPACER - frame, rear (444)	2
17	C 14730	SPACER - frame, rear (220, 222 and 224)	2
18	C 192-	LOCK WASHER - 1/2"	4
19	C 23	BOLT - 1/2" x 1" N.C. hex	4
20	C 30143	SHIELD - heat	1
21	C 30142	CLIP - battery hold down	1
22	C 547	SCREW - 1/4" x 20 x 1 1/2" pan hd.	9
23	C 182-	LOCK WASHER - 1/4"	7
24	C 192-	NUT - 1/4" - 20	5
25	C 26506	COVER - access	1
26	C 16361	HINGE - hood	1
27	C 187-	SCREW - 1/4" - 20 x 1 1/2"	2
28	C 1036	BUTTON - push, hood release	1
29	C 29314	ROD - push, hood release	1
30	C 30126	SPRING - release	1
	C 30004		1

*Also requires C30530

before S/N:

 220-14106917
 222-14108020
 224-14109118
 444-14111235



SEAT, FENDERS AND TOOL TRAY

REF.	PART NO.	DESCRIPTION	REQD.
1	C 31021	SUPPORT - seat, front (444)	1
2	C 31020	SUPPORT - seat, front (220, 222, 224)	1
3	C 27224	SUPPORT - seat, rear (444)	1
4	C 26827	SUPPORT - seat, rear (220, 222, 224)	1
5	C 441	BOLT - 1/2" x 2-1/4" N.C. hex (444)	2
6	C 427	BOLT - 1/2" x 3-1/4" N.C. hex (220, 222 and 224)	2
7	C 424	BOLT - 1/2" x 1" N.C. hex	2
8	C 118	BOLT - 5/16" x 5/8"	1
9	C 192	LOCK WASHER - 5/16"	1
10	C 23	LOCK WASHER - 1/2"	1
11	C 31004	TRAY - tool	4
12	C 16429	PIN - seat hinge	1
13	C 30071	SEAT - (220, 222 and 224) shown (black)	1
14	C 30066	SEAT - (444) (black)	1
15	C 15410	CUSHION - rubber	8
16	C 2175	WASHER - 5/16" x 1-1/4" OD, zinc plated	4
17	C 122	BOLT - 5/16" x 1-1/2"	4
18	C 14534*	BUMPER - seat	2
19	C 106	HINGE ASSEMBLY - seat (use C31005 and 2 each of C29305, C29306, 113-102, 131-911)	10
20	C 31005**	HINGE ASSEMBLY - seat hinge (shown)	1
21	C 26835†	FENDER - L.H. (444)	1
22	C 26833†	FENDER - R.H. (444)	1
23	C 26831†	FENDER - L.H. (220, 222, 224) shown	1
24	C 26829†	FENDER - R.H. (220, 222, 224)	1
25	C 14728	GRIP - shift lever	1
26	C 27594	LEVER - shift	1
27	C 525	WASHER - 7/16" x 1-1/4" OD	1
28	C 17216	SPRING - shift lever	1
29	C 30489	WASHER - cupped	1
30	C 1181	NUT - lock 3/8" N.C. hex	1
31	C 29305**	CAP - spring	2
32	C 29306**	SPRING - seat	3
33	C 102	BOLT - 5/16" - 18 x 3/4"	2
34	C 911	REFLECTOR - red, rear fender (use C30842)	2
35	C 30467††	FENDER R.H. (220, 222, 224)	1
36	C 30466††	FENDER L.H. (220, 222, 224) shown	1
37	C 30471††	FENDER - R.H. (444)	1
38	C 30470††	FENDER - L.H. (444)	1
39	C 547	SCREW - 1/4" - 20 x 1/2"	2
40	C 934	NUT - 1/4"	2
41	C 31006	SPRING - seat switch	1
42	C 26526	CAP - spring	1

*Use before S/N:

**Use S/N and after:

220 - 14068672

222 - 14069604

224 - 14070707

444 - 14072835

†Use before S/N:

††Use S/N and after:

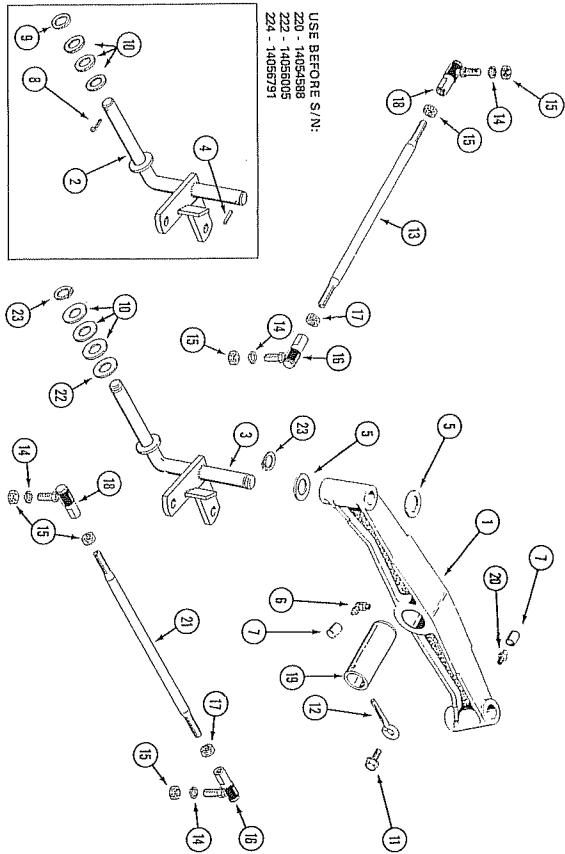
220 - 14091130

222 - 14092090

224 - 14093065

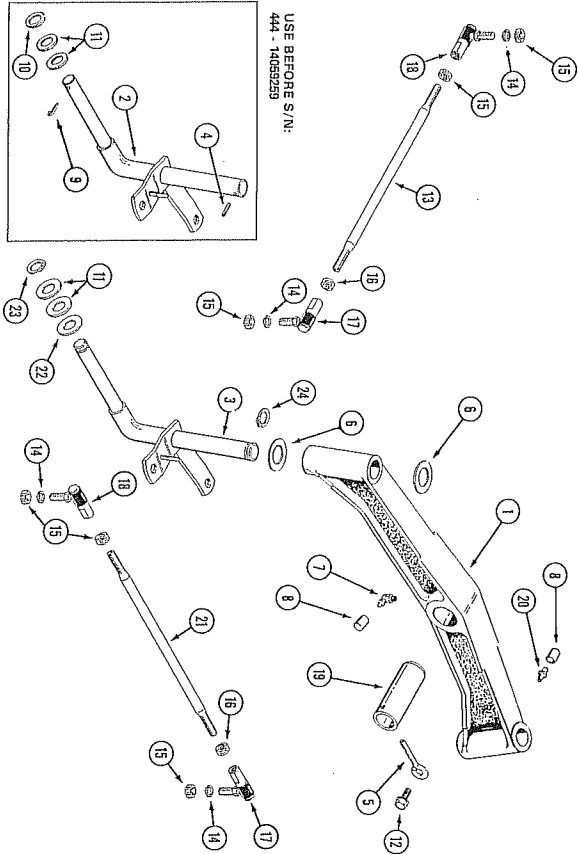
444 - 14094825

220, 222 AND 224 FRONT AXLE



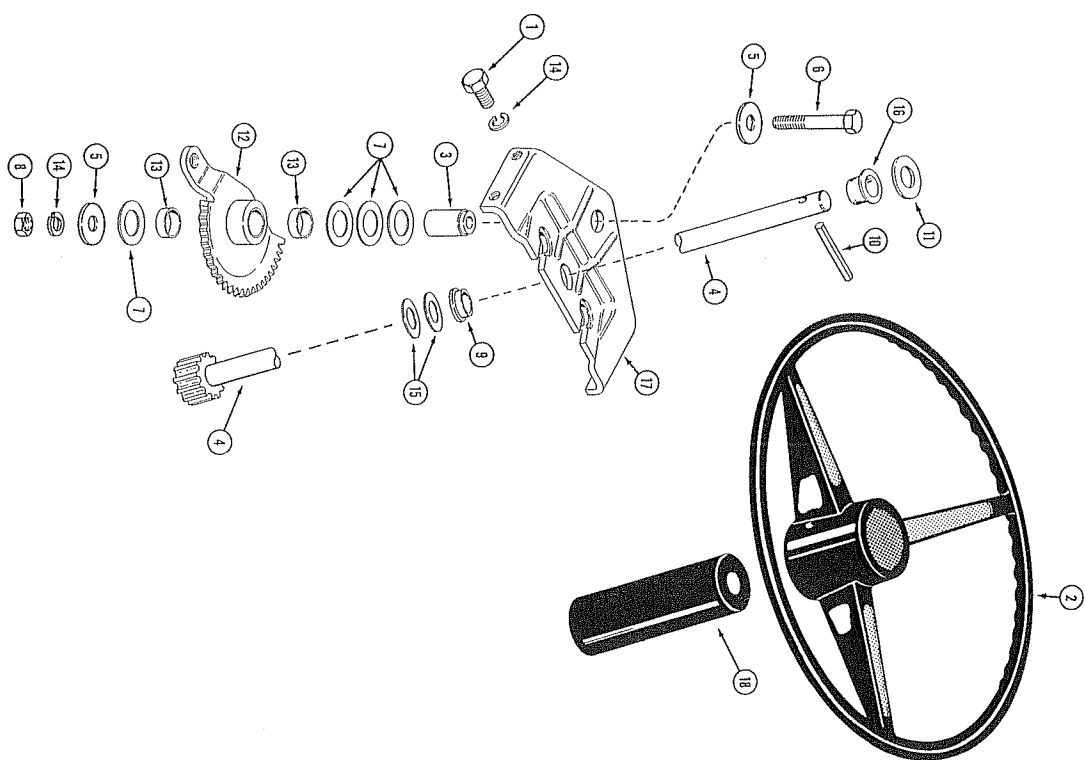
REF.	PART NO.	DESCRIPTION	REQD.
1	18812	AXLE - front	1
2	NSS	SPINDLE - L.H. (use C31337, C28222)	1
3	NSS	SPINDLE - R.H. shown (use C31338, C28232)	1
4	NSS	SPINDLE - L.H. (use C31337, 132-311)	1
5	99	PIN - roll	2
6	11906	WASHER - thrust	4
7	C 404	FITTING - tube	1
8	13106	COVER - lube fitting	3
9	311	PIN - cotter 5/32 x 1-1/4"	2
10	C 12975	WASHER - wheel spindle	2
11	C 28226	WASHER - wheel spacer	6
12	187-	BOLT - 3/8" N.C. indented hex head	1
13	C 22278	PIN - retaining, axle pivot	1
14	C 25857	ROD - drag link	1
15	192-	LOCK WASHER - 1/2" zinc plated	3
16	C 165	NUT - jam 1/2" N.F. hex R.H. thread	6
17	C 13605	BALL JOINT - 1/2" L.H. thread	2
18	C 365	NUT - jam 1/2" N.F. hex L.H. thread	2
19	C 12102	BALL JOINT - R.H. thread	2
20	C 22588	TUBE - axle pivot	1
21	17	FITTING - lube	1
22	C 25856	TIE ROD	1
23	C 27597	WASHER	2
24	C 28232	RING - retaining	4

444 FRONT AXLE



1	C 18813	AXLE - front	1
2	NSS	SPINDLE - R.H. shown (use C31341, C27902)	1
3	NSS	SPINDLE - L.H. (use C31340, C27902)	1
4	NSS	SPINDLE - R.H. shown (use C31341, 132-311)	1
5	99	SPINDLE - L.H. (use C31340, 132-311)	1
6	C 22278	PIN - roll	2
7	C 13716	PIN - retaining, axle pivot	1
8	C 404	WASHER - thrust	4
9	C 13106	COVER - lube fitting	1
10	C 311	PIN - cotter 5/32" x 1-1/4"	2
11	C 12975	WASHER - wheel spindle	3
12	C 28226	WASHER - wheel spacer	4
13	187-	BOLT - 3/8" N.C. indented hex head	1
14	C 1910	ROD - drag link	1
15	C 25857	LOCK WASHER - 1/2" zinc plated	3
16	129-	NUT - jam 1/2" N.F. hex R.H. thread	6
17	C 365	NUT - jam 1/2" N.F. hex L.H. thread	2
18	C 13605	BALL JOINT - L.H. thread	2
19	C 12102	BALL JOINT - R.H. thread	2
20	C 22588	TUBE - axle pivot	1
21	17	FITTING - lube	1
22	C 25855	TIE ROD	1
23	C 27597	WASHER	2
24	C 28232	RING - retaining	2

STEERING GEAR



REF.	PART NO.	DESCRIPTION	REQ'D
1	113- 206	BOLT - 3/8" x 3/4" N.C. hex	4
2	C 26325	WHEEL - steering	1
3	NSS*	PIN - pivot (use C29044)	1
3	C 29044**	PIN - pivot	1
4	C 26326	SHAFT - steering	1
5	C 29812	WASHER - 3/8" x 1.4"	2
6	113- 241*	BOLT - 3/8" - 16 x 3" hex	1
6	113- 248**	BOLT - 3/8" - 16 x 2-3/4"	1
7	C 14201	WASHER - shim	4
8	129- 103	NUT - 3/8" - 16 hex	1
9	C 27501**	BUSHING	1
10	138- 143	PIN - roll 1/4" x 2-1/4"	1
11	195- 541	WASHER - 5/8"	UAR
12	C 33309	GEAR - steering	1
13	C 33308	BUSHING - sleeve	2
14	192- 21	LOCK WASHER - 3/8"	5
15	195- 2069	WASHER - 5/8" zinc plated	2
16	C 19096	BUSHING - flanged nylon	1
17	C 30019**	SUPPORT - steering gear (includes bushing)	1
17	NSS*	SUPPORT - steering (use C29812, C30019 and C29044)	1
18	C 24098†	TUBE - steering	1
18	C 30127††	TUBE - steering	1

*Use before S/N:

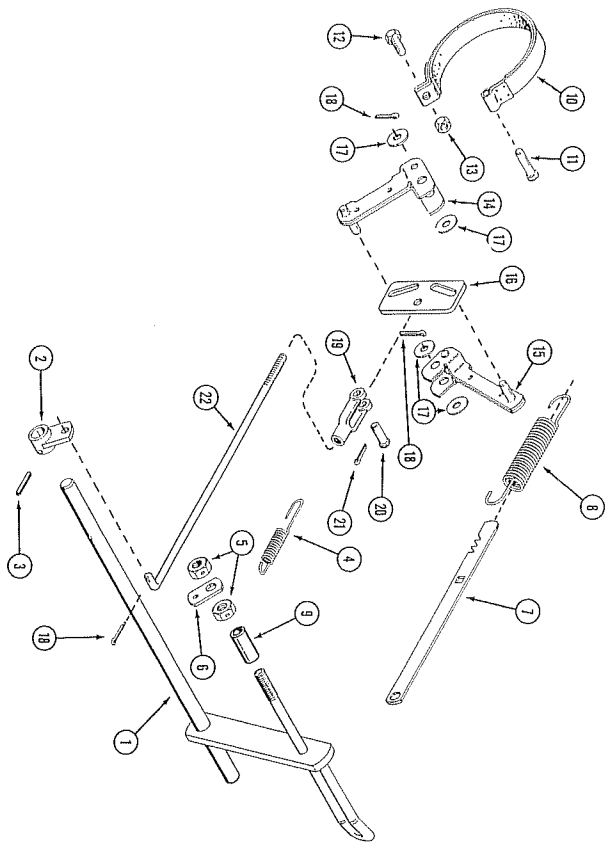
**Use S/N and after:

†Use before S/N:

††Use S/N and after:

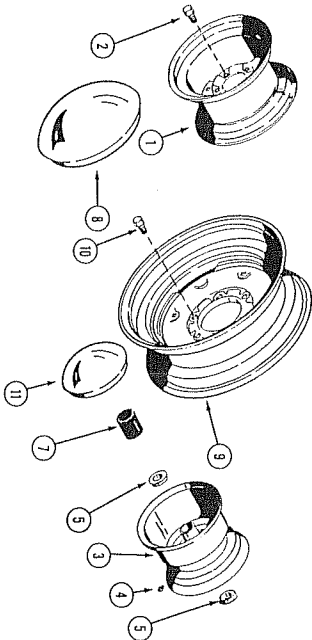
220 - 14068708 220 - 14091130
 222 - 14069648 222 - 14092090
 224 - 14070747 224 - 14093065
 444 - 14072860 444 - 14094825

BRAKE ASSEMBLY



REF.	PART NO.	DESCRIPTION	REQ'D
1	21872	PEDAL - brake actuating	1
2	26381	ARM - brake pedal	1
3	138-	PIN - spiral 3/16" x 1-1/4"	1
4	2073	SPRING - return	1
5	25022	NUT - centerlock, jam	1
6	1308	TAB - lift	2
7	16164	LEVER - brake lock	1
8	18147	SPRING - brake lock	1
9	27755	SPACER - brake pedal	1
10	21857	BAND - brake	1
11	33427	PIN - clevis	1
12	23810	BOLT - 3/8" - 16 x 1-1/2" hex	1
13	2262	NUT - 3/8" - 16 jam	1
14	129-	ARM - brake	1
15	23899	ARM - brake (includes adjustment nut)	1
16	24751	GUIDE - brake actuation	1
17	31994	WASHER - .531" I.D.	4
18	533	PIN - cotter 1/8" x 1"	3
19	132-	CLEVIS	1
20	28978	PIN - clevis	1
21	321	PIN - cotter 3/32" x 1"	1
22	31992	ROD - brake (220, 222, 224)	1
22	31993	ROD - brake (444)	1

FRONT AND REAR WHEELS



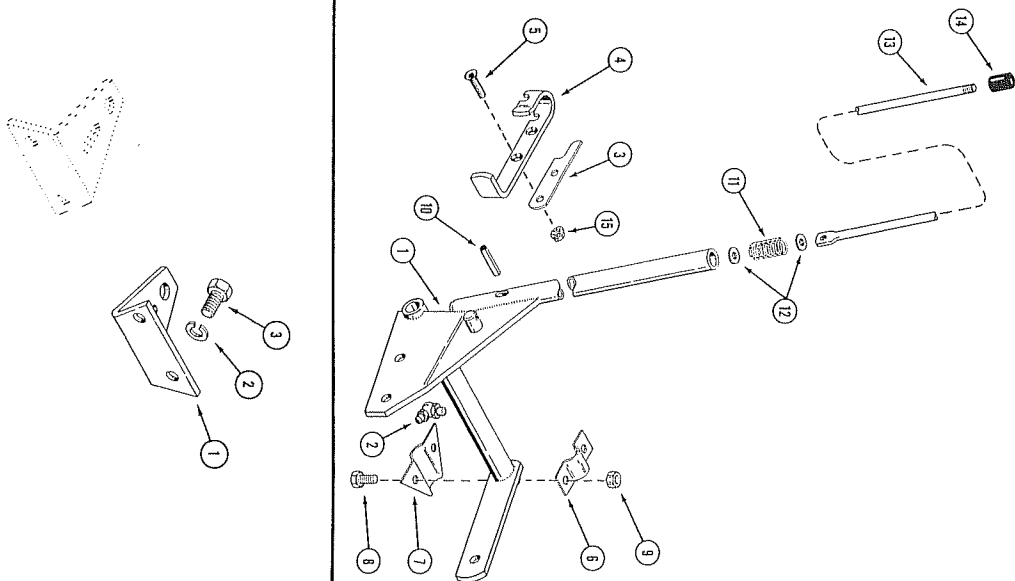
REF.	PART NO.	DESCRIPTION	REQ'D
1	30913	WHEEL - rear, 5 bolt (220, 222, 224) for 23 x 8.50 - 12 tire	2
2	30822	WHEEL - rear, 5 bolt (220, 222, 224) for 23 x 10.50 - 12 tire	2
3	10314	BOLT - rear wheel (220, 222, 224)	10
4	30912	WHEEL - front (white) (includes items 5)	2
5	219-	FITTING - lube	2
6	403	BEARING - wheel	4
7	12110	CAP - plastic, front	2
8	28021	CAP - hub, rear (optional) (220, 222, 224)	2
9	28970	WHEEL - rear, 6 bolt (444)	2
10	30917	BOLT - rear wheel (444)	12
11	27763	CAP - hub front wheel (optional)	2
	28865	COVER - lube fitting	2
	13106	STEM - valve	2
	28236		4

IMPLEMENT LIFT

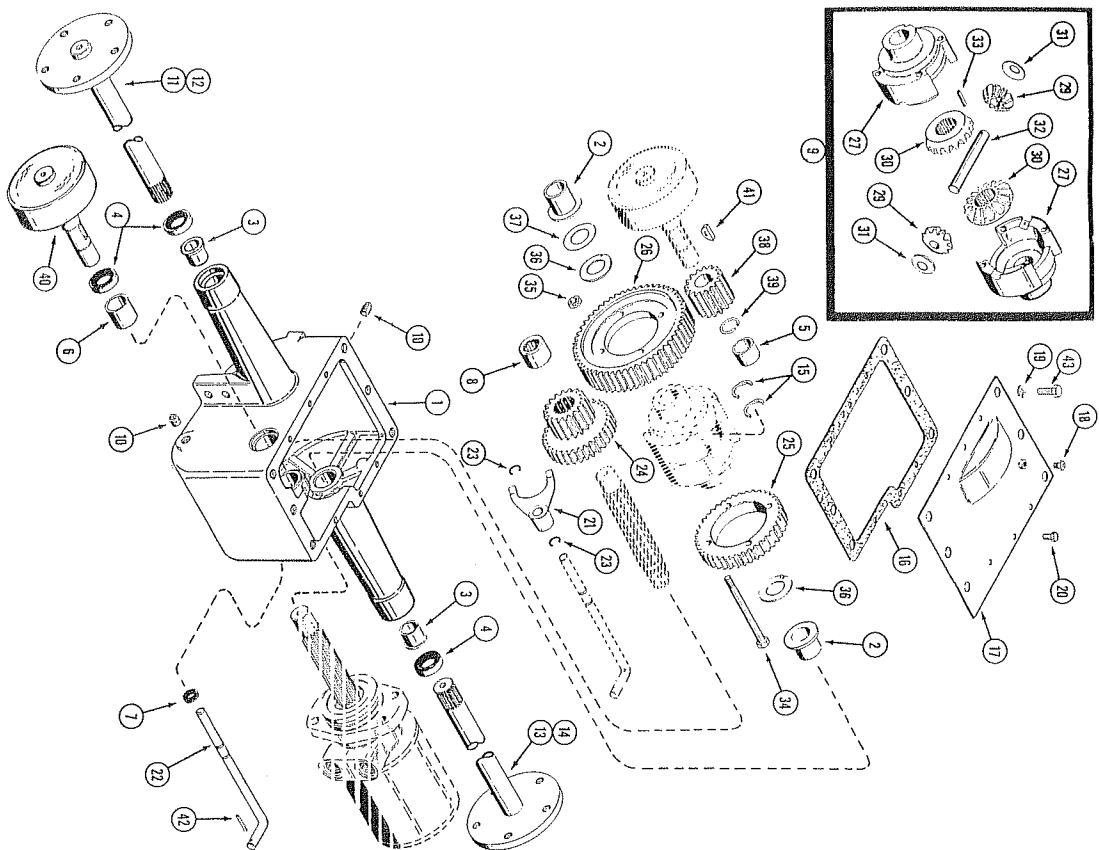
REF.	PART NO.	DESCRIPTION	REQ'D
1	18809	LEVER ASSEMBLY - implement lift	1
2	219-404	FITTING - tube 45°	1
3	17281	SPACER - latch	5
4	18811	LATCH - lever	1
5	164-42	SCREW - 5/16" x 1-1/4" flat head socket	2
6	17249	BRACKET - mounting top	1
7	17250	BRACKET - mounting bottom	1
8	113-207	BOLT - 3/8" x 1" N.C.	4
9	131-181	NUT - lock 3/8"	4
10	138-2054	PIN - spiral 5/16" x 1-3/4"	1
11	15564	SPRING - lift lever	1
12	521	WASHER - 3/8" x 1 1/16" OD	2
13	17067	ROD - lift lever push	1
14	14525	BUTTON - release	1
15	131-911	NUT - lock 5/16" - 18 flanged	2
	13106	COVER - tube fitting	1

DRAWBAR AND TOW HITCH

REF.	PART NO.	DESCRIPTION	REQ'D
1	13360	DRAWBAR	1
2	192-23	LOCK WASHER - 1/2" zinc plated	1
3	113-424	BOLT - 1 1/2" x 1" N.C. hex zinc plated	2



MOUNTING POSITION FOR 220, 222 AND 224 TRACTORS.



TRANSMISSION AND FINAL DRIVE

REF.	PART NO.	DESCRIPTION	REQ'D
1	24843	CASE ASSEMBLY - transmission	1
2	NSS	CASE - transmission	1
3	12713	BEARING - flange	2
4	24804	BEARING - flange	2
5	24803	SEAL - shaft	3
6	13241	BEARING - sleeve	1
7	13385	BEARING - sleeve	1
8	13266	SEAL - shaft	1
9	28281	BEARING - roller	1
10	30027	DIFFERENTIAL ASSEMBLY	1
11	221-	PLUG - 3/8" filler and drain	1
12	16699	SHAFT - axle, short R.H. (220, 222 and 224)	3
13	22638	SHAFT - axle, short R.H. (444)	1
14	16700	SHAFT - axle, long L.H. (220, 222 and 224)	1
15	22637	SHAFT - axle, long L.H. (444)	1
16	26342	RING - retainer axle	2
17	13196	GASKET - transmission cover	1
18	13197	COVER - transmission	1
19	28241	BREATHER - transmission	1
20	192-	LOCK WASHER - 1/2"	4
21	23	BOLT - 1/4" x 1/2" N.C. lock	6
22	12725	FORK - shift	1
23	32486	ROD - gear shift	1
24	14168	RING - retaining	2
25	30030**	GEAR - cluster input	1
26	12552	GEAR - high 41 tooth (shown) use C30030 and C30031	1
27	NSS	GEAR - low 55 tooth	1
28	NSS	GEAR - high 41 tooth	1
29	NSS	KIT - diff. case (includes Ref. 34 and 35)	1
30	NSS	GEAR - differential pinion	2
31	NSS	WASHER - differential	2
32	NSS	WASHER - pinion thrust	1
33	NSS	PIN - differential cross	1
34	680*	SCREW - 3/8" x 5" N.F. hex cap (shown)	1
35	30031**	NUT - lock 3/8" N.F. hex	4
36	1133	WASHER - spacer	4
37	12718	GEAR - brake idler	1
38	14223	RING - retainer, brake idler	1
39	33417	BRAKE DRUM	1
40	14222	KEY - Woodruff, brake idler 1/4" x 1-1/8"	1
41	25258	PIN - roll 3/16" x 1-1/4"	1
42	128	BOLT - 1/2" - 13 x 1" hex	4
43	138- 2073 113- 424		

* Use Before S/N:

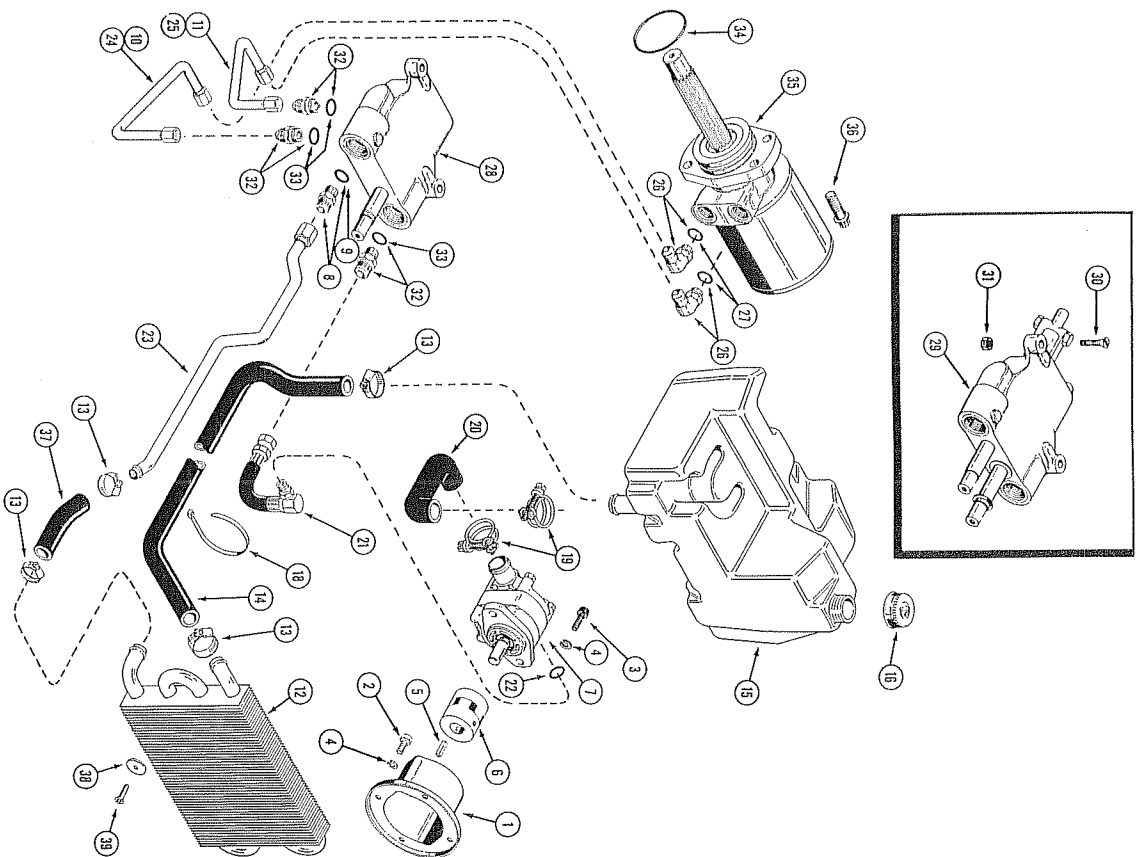
** Use S/N and after:

220 - 14091014

222 - 14091935

224 - 14092962

444 - 14094720



HYDRAULIC SYSTEM

USE BEFORE S/N:

220 - 14090930 224 - 14070796
222 - 14069687 444 - 14094620

Use for all model 220 and 222 tractors with manual lift

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 16336	SUPPORT - pump mounting	1
2	113- 206	BOLT - 3/8" x 3/4" N.C. hex. support mounting	4
3	62- 616	BOLT - 3/8" x 1" N.F. hex soc. hd., pump mounting	2
4	192- 21	LOCK WASHER - 3/8" zinc plated	6
5	C 28321	KEY - square 1/4" x 3/4" (engine shaft)	1
6	C 15726	COUPLING - pump, 1/2" shaft (220, 222) repairs page 57	1
7	C 17298	COUPLING - pump, 1/2" shaft (224, 444) repairs page 57	1
8	C 26278	PUMP - hydraulic, 1/2" shaft (repairs page 57)	1
9	218- 5065	FITTING - hyd. 3/4" x 7/8" "O" Ring	1
10	C 16794	TUBE - valve to lower motor port (220, 222 and 224)	1
11	C 16793	TUBE - valve to upper motor port (220, 222, and 224)	1
12	C 25784	EXCHANGER - heat	1
13	214- 254	CLAMP - hose	4
14	NSS	HOSE - tank to heat exchanger (use C29697 cut to length)	1
15	NSS**	RESERVOIR - hydraulic oil (use C33167 kit)	1
16	C 25237	CAP - reservoir (includes insert)	1
18	C 22947	TIE - hose clamp	2
19	C 23326	CLAMP - hose	2
20	C 39423*	HOSE - suction	1
21	C 29309**	HOSE - suction	1
22	C 18797	HOSE - hydraulic, pump to valve	1
23	218- 5006	"O" RING - 1/2" (for C18797)	1
24	C 26182	TUBE - valve to heat exchanger	1
25	C 25333	TUBE - valve to lower motor port (444)	1
26	C 25334	TUBE - valve to upper motor port (444)	1
27	218- 5107	FITTING - motor port, 90° elbow, "O" Ring	2
28	218- 5007	"O" RING - 5/8" (for 218-5107 fitting)	1
29	C 27217	VALVE - hydraulic control, single spool (220, 222) (repairs page 59)	1
30	182- 246	VALVE - hydraulic control, two spool (all models with hydraulic lift) (repairs page 59)	1
31	131- 351	SCREW - 5/16" x 1-1/4" N.C.	2
32	218- 5062	NUT - lock 5/16" N.C. hex.	2
33	218- 5007	FITTING - hydraulic valve 5/8" x 7/8" "O" Ring	3
34	C 28949	"O" RING - 5/8"	1
35	C 16697	SEAL - motor to transmission	1
36	C 33233	MOTOR - hydraulic (220, 222 and 224) (repairs page 53)	1
37	166- 86	MOTOR - hydraulic (444) (repairs page 53)	1
38	NSS	SCREW - 1/2" x 1-1/4" N.C. flanged 12 pt.	4
39	25556	HOSE - rubber (use C29697) cut to length 7'	1
	187- 1252	WASHER - heat exchanger bracket	3
		SCREW - 1/4" x 1-1/2" N.C. flat hd. Phillips	3

*Use before S/N:

**Use S/N and after

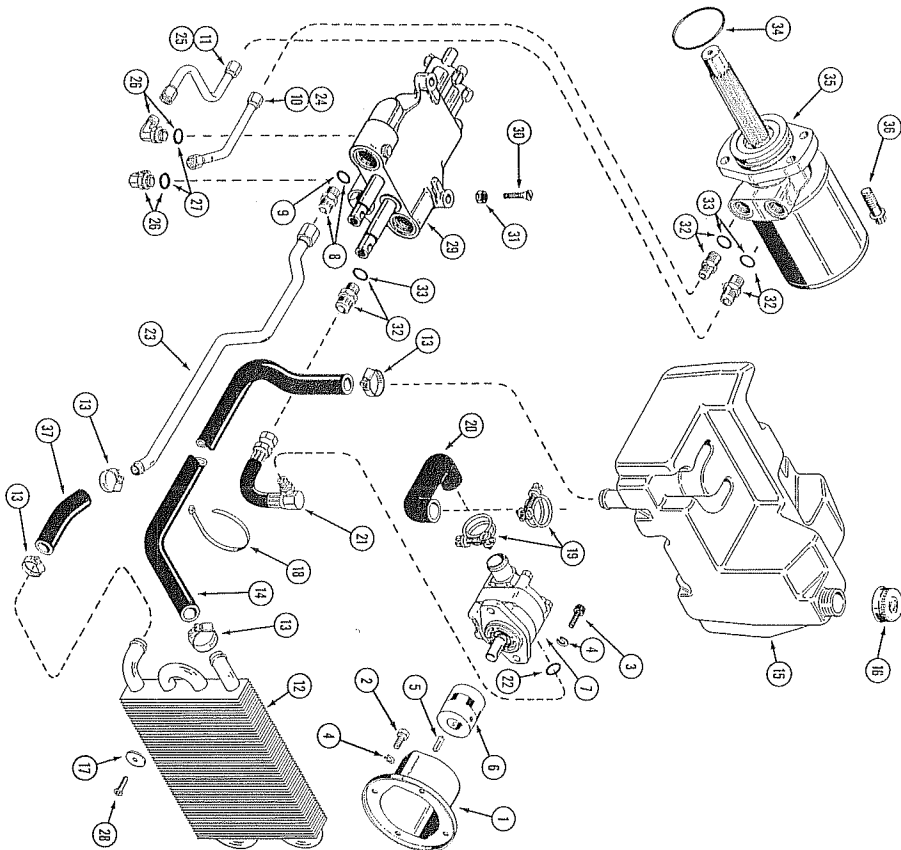
220 - 14068672
222 - 14069604
224 - 14070707
444 - 14072835

HYDRAULIC SYSTEM

Use S/N and after:

220 - 14090930, 222 - 14069687,
224 - 14070796, 444 - 14094620

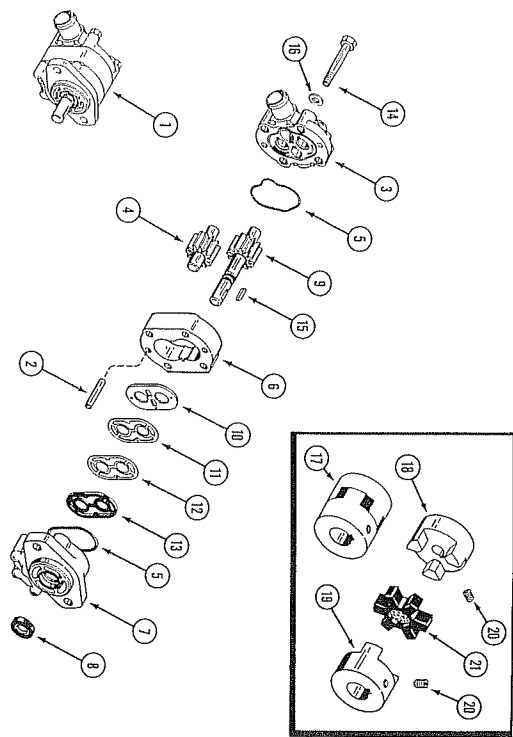
See page 48 for model 220 and 222 manual lift tractors



REF.	PART NO.	DESCRIPTION	REC'D
1	16335	SUPPORT - pump mounting	1
2	113-	BOLT - 3/8" x 3/4" N.C. hex. support mounting	4
3	206	BOLT - 3/8" x 1" N.F. hex soc. hd., pump mounting	4
4	62-	LOCK WASHER - 3/8" zinc plated	6
5	21	KEY - square 1/4" x 3/4" (engine shaft)	1
6	28321	COUPLING - pump, 1/2" shaft (220, 222) repairs page 57	1
7	15726	COUPLING - pump, 1/2" shaft (224, 444) repairs page 57	1
8	17298	PUMP - hydraulic, 1/2" shaft (repairs page 57)	1
9	26278	FITTING - hyd. 3/4" x 7/8" "O" Ring	1
10	5007	TUBE - valve to upper motor port (220, 222, and 224)	1
11	29656	TUBE - valve to upper motor port (220, 222, and 224)	1
12	29655	EXCHANGER - heat	1
13	25784	CLAMP - hose	4
14	254	HOSE - rubber, tank to heat exchanger (use C29697 cut to length)	1
15	25237	RESERVOIR - hydraulic oil (shown) (use C33177 kit)	1
16	C	CAP - reservoir (includes insert)	1
17	C	WASHER - heat exchanger bracket	3
18	C	TIE - hose clamp	2
19	214-	CLAMP - hose	2
20	14	HOSE - suction	1
21	29309	HOSE - hydraulic, pump to valve	1
22	18797	"O" RING - 1/2" (for C18797)	1
23	218-	TUBE - valve to heat exchanger	1
24	26182	TUBE - valve to lower motor port (444)	1
25	C	TUBE - valve to upper motor port (444)	1
26	29657	FITTING - motor port, 90° elbow, "O" Ring	2
27	218-	"O" RING - 5/8" (for 218-5107 fitting)	2
28	187-	SCREW - 1/4" x 1-1/2" N.C. flat hd. Phillips	3
29	NSS	VALVE - hydraulic control, two spool (models with hydraulic lift) (repairs page 61 - use C33473 and 218-5154)	1
30	182-	SCREW - 5/16" x 1-1/4" N.C.	1
31	246	NUT - lock 5/16" N.C. hex.	2
32	131-	FITTING - hydraulic valve 5/8" x 7/8" "O" Ring	3
33	5062	"O" RING - 5/8"	1
34	218-	SEAL - motor to transmission	1
35	28849	MOTOR - hydraulic (220, 222 and 224) (repairs page 63)	1
36	C	MOTOR - hydraulic (444) (repairs page 63)	1
37	33234	SCREW - 1/2" x 1-1/4" N.C. flanged 12 pt.	1
	166-	SCREW - 1/2" x 1" flanged 12 pt.	4
	86*	HOSE - rubber, (use C29699) cut to length 7"	1
	86**		1

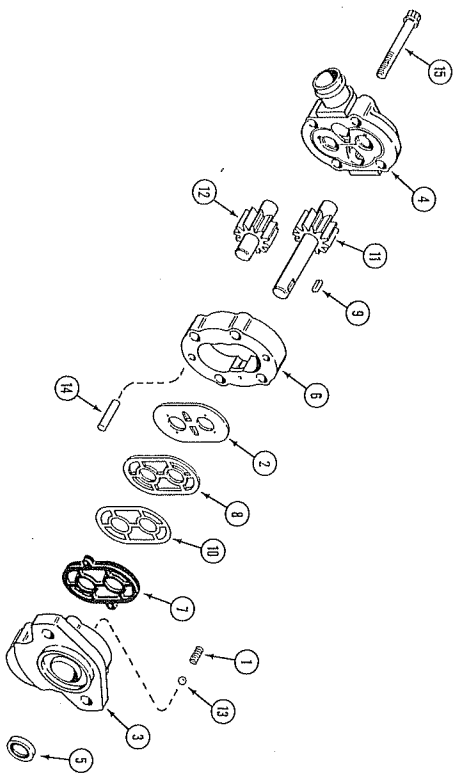
*Use before S/N:
220 - 14107095
222 - 14108205
224 - 14109285
444 - 14111340

**Use S/N and after:



REF.	PART NO.	DESCRIPTION	REQ'D
1	28278	PUMP - hydraulic 1/2" shaft	1
2	53109	PIN - dowel	2
3	24861	COVER - rear	1
4	15731	GEAR ASSEMBLY - driven	1
5	15732	"O" RING - cover	2
6	15733	BODY - pump	1
7	15734	COVER - front	1
8	15735	SEAL - shaft	1
9	NSS	GEAR ASSEMBLY - drive (1/2" shaft) (use C28278)	1
10	15737	PLATE - wear	1
11	15738	SHIELD - heat	1
12	15739	GASKET	1
13	15740	SEAL	1
14	113-111	BOLT	4
15	19207	KEY - 1/8" square x 3/4" long	1
16	NSS	WASHER - obtain locally	4
17	17298	COUPLING - pump (224, 444)	1
18	15726	COUPLING - pump (220, 222)	1
19	NSS	HUB - (order item 17)	1
20	32199	SCREW - set 5/16" x 5/16" NC socket head	1
21	15036	SPIDER - (224, 444)	2
21	28966	SPIDER - (220, 222)	1

HYDRAULIC PUMP AND COUPLING (PARKER-HANNIFIN)

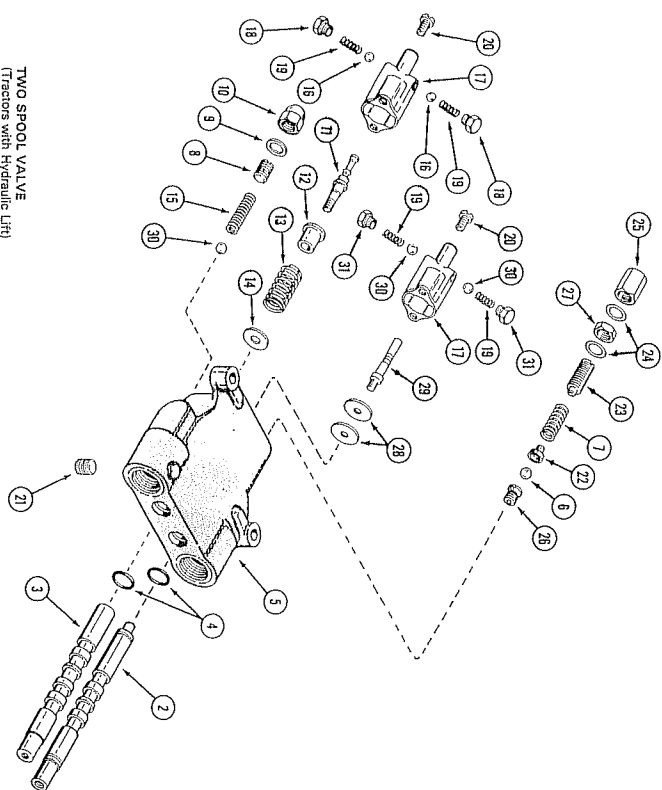


REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	PUMP - hyd. 1/2" shaft (use C28278)	1
2	28709	SPRING	2
3	28718	DIAPHRAGM - wear plate	1
4	NSS	COVER - front (use C28278)	1
5	NSS	COVER - rear (use C28278)	1
6	28711	SEAL - shaft	1
7	28712	BODY - pump (use C28278)	1
8	28714	SEAL - diaphragm	1
9	19207	GASKET - back up	1
10	28713	KEY - 1/8" square x 3/4" long	1
11	NSS	GASKET - protector	1
12	NSS	GEAR ASSEMBLY - drive (use C28278)	1
13	211-306	GEAR ASSEMBLY - driven (use C28278)	1
14	28715	BALL - steel 7/32"	2
15	NSS	PIN - dowel 1/4" x 1-1/4"	2
		BOLT - 5/16" - 18 x 2-1/2" 12 point flange (obtain locally)	4

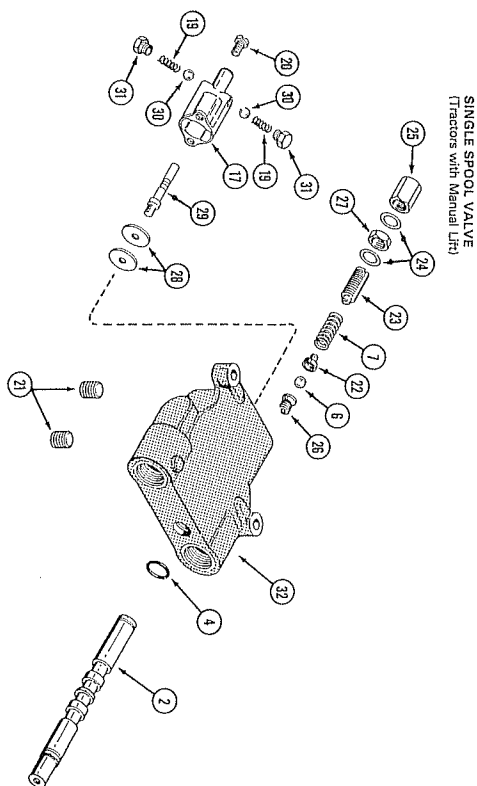
HYDRAULIC PUMP (CESSNA)

HYDRAULIC CONTROL VALVE

Use before S/N:
220 - 14090930, 222 - 14069687
224 - 14070796, 444 - 14094620
And All Single Spool Valves

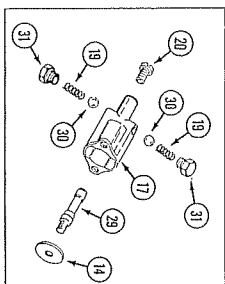


TWO SPOOL VALVE
(Tractors with Hydraulic Lift)

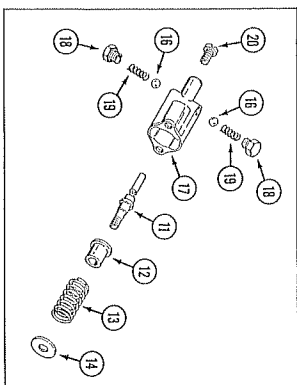


SINGLE SPOOL VALVE
(Tractors with Manual Lift)

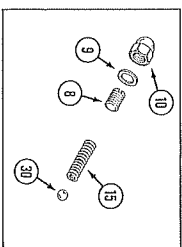
REF.	PART NO.	DESCRIPTION	REQD
1	C 27217	VALVE - control, two spool	1
2	C 28699	RING - retaining	2
3	NSS	SPOOL - motor (order C27217)	1
4	C 28699	SPOOL - lift (order C27217)	1
5	NSS	SEAL - spool	4
6	208	BODY - valve (order C27217)	1
7	C 21507	BALL - steel 5/16" (7.94 mm)	1
8	C 17433	SPRING - relief	2
9	C 17435	SCREW - relief adjust	1
10	C 531	GASKET - relief adjust cap	1
11	C 26668	CAP - adjust screw	2
12	C 26707	DETENT - spool	1
13	C 28706	SPACER - detent	1
14	C 28706	SPRING - detent return	1
15	NSS	WASHER - return	1
16	C 17438	SPRING - relief (use C21511 relief kit)	1
17	C 28708	BALL - steel 3/16" (4.76 mm)	3
18	C 17444	COVER - detent	1
19	C 17444	SCREW - detent	2
20	169-221-	SCREW - cover	4
21	941	PLUG - pipe	1
22	C 21506	RETAINER - ball seat	1
23	C 26665	SCREW - adjust, relief	1
24	C 26664	GASKET - adjust cap	1
25	C 26666	CAP - adjust screw	1
26	C 26663	SEAT - relief ball	1
27	C 34555	NUT - lock	1
28	195-521	WASHER	2
29	C 27219	DETENT - spool	1
30	211-7	BALL - steel 1/4" (6.35 mm)	2
31	C 17443	SCREW - detent	2
32	NSS	VALVE - control, single spool (use Z7217 and (2) Z18-5154)	1



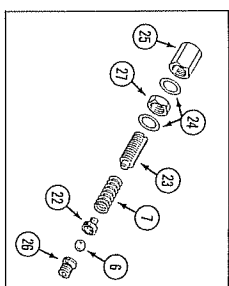
TRAVEL SECTION DETENT GROUP



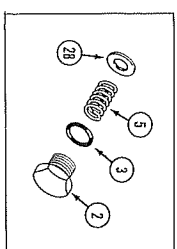
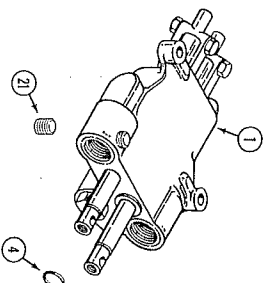
LIFT SECTION DETENT GROUP



LIFT SECTION RELIEF GROUP



TRAVEL SECTION RELIEF GROUP



HOLDING SECTION GROUP

REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	VALVE - control, two spool (use C394/3 and 218-5154)	1
2	29956	CAP - end	2
3	28217	"O" RING - end cap	1
4	28856	SEAL - spool	4
5	29951	SPRING - centering	2
6	211- 208	BALL - steel 5/16" (7.94 mm)	1
7	21507	SPRING - relief	2
8	17433	SCREW - relief adjust	1
9	17435	GASKET - relief adjust	1
10	129- 531	CAP - adjust screw	2
11	26668	DETENT - spool	1
12	28707	SPACER - detent	1
13	28706	SPRING - detent return	1
14	28705	WASHER - return	2
15	NSS	SPRING - relief (use C21511 relief kit)	1
16	211- 5	BALL - steel 3/16" (4.76 mm)	2
17	17438	COVER - detent	1
18	28708	SCREW - detent	2
19	17444	SPRING - detent	4
20	169- 114	SCREW - cover	4
21	221- 841	PLUG - pipe	1
22	21506	RETAINER - ball seat	1
23	26665	SCREW - adjust, relief	1
24	26664	GASKET - adjust, relief	1
25	26666	CAP - adjust screw	1
26	26663	SEAT - relief ball	1
27	34555	NUT - lock	1
28	29950	WASHER - spring retaining	2
29	29958	DETENT - spool	1
30	211- 7	BALL - steel 1/4" (6.35 mm)	3
31	17443	SCREW - detent	2
	30002	KIT - seal	1
	30481	PLUG - holding spool (use to replace rear plug only)	1

HYDRAULIC CONTROL VALVE

Use S/N and after:

220 - 14090530, 222 - 14069887

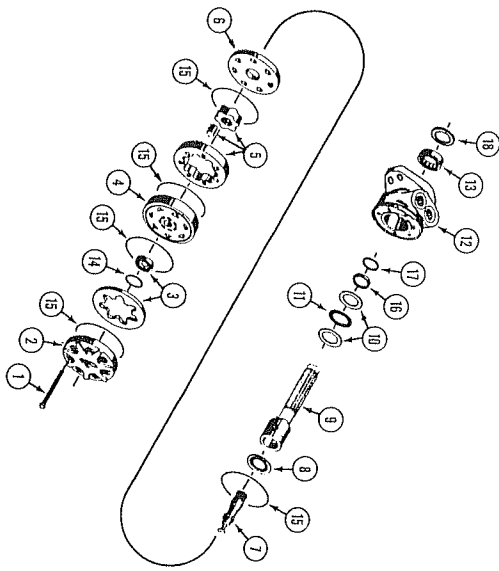
224 - 14070796, 444 - 14094620

Single spool valve repair Page 55

HYDRAULIC DRIVE MOTOR

Use S/N and after:

220 - 14107095
222 - 14108205
224 - 14109285
444 - 14111340

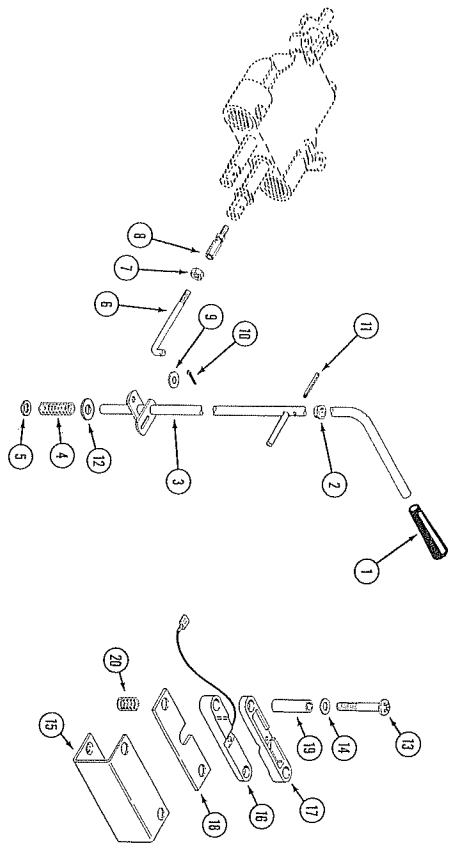


REF.	PART NO.	DESCRIPTION	REQ'D
C	33234	MOTOR - hydraulic (444)	1
C	30639	MOTOR - hydraulic (220, 222, 224)	1
28-	668	BOLT - 3/8" - 24 x 4-1/4" (220, 222, 224)	7
C	31327	BOLT - 3/8" - 24 x 4-5/8" (444)	7
C	31309	COVER - end	1
C	31310	COMMUTATOR AND RING SET	1
C	31311	MANIFOLD	1
C	31312	ROTOR ASSEMBLY (220, 222, 224)	1
C	31313	ROTOR ASSEMBLY (444)	1
C	31314	PLATE - wear	1
C	31315	LINK - drive (220, 222, 224)	1
C	31316	LINK - drive (444)	1
C	31317	BEARING - thrust	1
C	31318	SHAFT - coupling	1
C	31319	WASHER - thrust	2
C	31320	BEARING - thrust	1
C	31321	HOUSING - drive end	1
C	31322	BEARING - outer	1
C	31323	KIT - seal	1
NSS		SEAL - commutator ring	1
15		SEAL - ring	5
16		SEAL - ring	1
17		WASHER - backup	1
NSS		SEAL - dirt (not used)	1
18			

HYDRAULIC DRIVE MOTOR

Use Before S/N: 220 - 14107095 224 - 14109285
222 - 14108205 444 - 14111340

NSS	33233	MOTOR - hydraulic 220, 222, and 224 (use C30639 and 8-56770)	1
C	16516	RING - retaining	1
C	19040	SPACER - (see kit below)	1
C	25048	SEAL - oil (see kit below)	1
C	14827	HOUSING ASSEMBLY	1
C	14837	END CAP	1
C	18382	SEAL - (see kit below)	2
C	14828	SHAFT - coupling	1
C	28704	DRIVE LINK - 220, 222, 224	1
C	14829	DRIVE LINK - 444	1
C	14830	PLATE - wear	1
C	18710	ROTOR ASSEMBLY - 220, 222 and 224	1
C	14831	ROTOR ASSEMBLY - 444	1
C	28703	PLATE - manifold	1
C	28704	MANIFOLD	1
C	28701	COMMUTATOR AND RING SET	1
C	19041	RING - sealing (see kit below)	1
C	18092	SLEEVE - 220, 222 and 224	1
C	14836	SLEEVE - 444	1
NSS		BOLT - 3/8" x 3-7/8" N.F. hex, 220, 222 and 224 (obtain locally)	7
C	14838	BOLT - 3/8" x 4-3/8" N.F. hex, 444	7
C	19212	WASHER - back up .010" (0.25mm) (see kit below)	1
C	29732	KIT - "O" ring and seal	1



SPEED CONTROL

REF.	PART NO.	DESCRIPTION	REQ'D
1	29047	KNOB - speed control	1
2	NSS	BUSHING - lever (use C27593)	1
3	29407*	LEVER - speed control (shown)	1
3	30128**	LEVER - speed control	1
4	29645	SPRING - compression	1
5	21518	WASHER - nylon	1
6	18742	ROD - control	1
7	129-	NUT - 5/16" N.F. hex, zinc plated	1
8	19025	JOINT - ball	1
9	195-	WASHER - 5/16"	1
10	132-	PIN - cotter 3/32" x 3/4"	1
11	138-	PIN - roll 1/8" x 1-3/4"	1
11	2072	WASHER	1
12	195-	WASHER	1
13	29646*	LOCATOR ASSEMBLY - neutral start	1
14	30130**	LOCATOR ASSEMBLY - neutral start	1
14	29647	SCREW - 1/4" - 20 black	2
15	29648	WASHER - nylon	2
15	29649*	CARRIER - locator	1
15	30133**	CARRIER - locator	1
16	29650	SWITCH - neutral start	1
17	29651*	LOCATOR - half	1
17	30450**	LOCATOR - light switch	1
18	29652	SUPPORT - locator	1
19	29653	SPACER - tube	2
20	30827	SPRING - locator	2

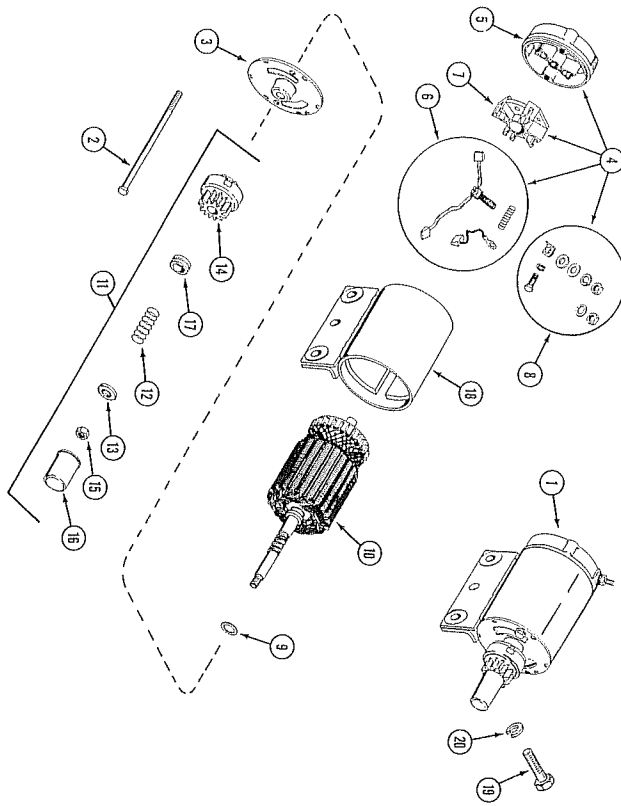
*Use before S./N.

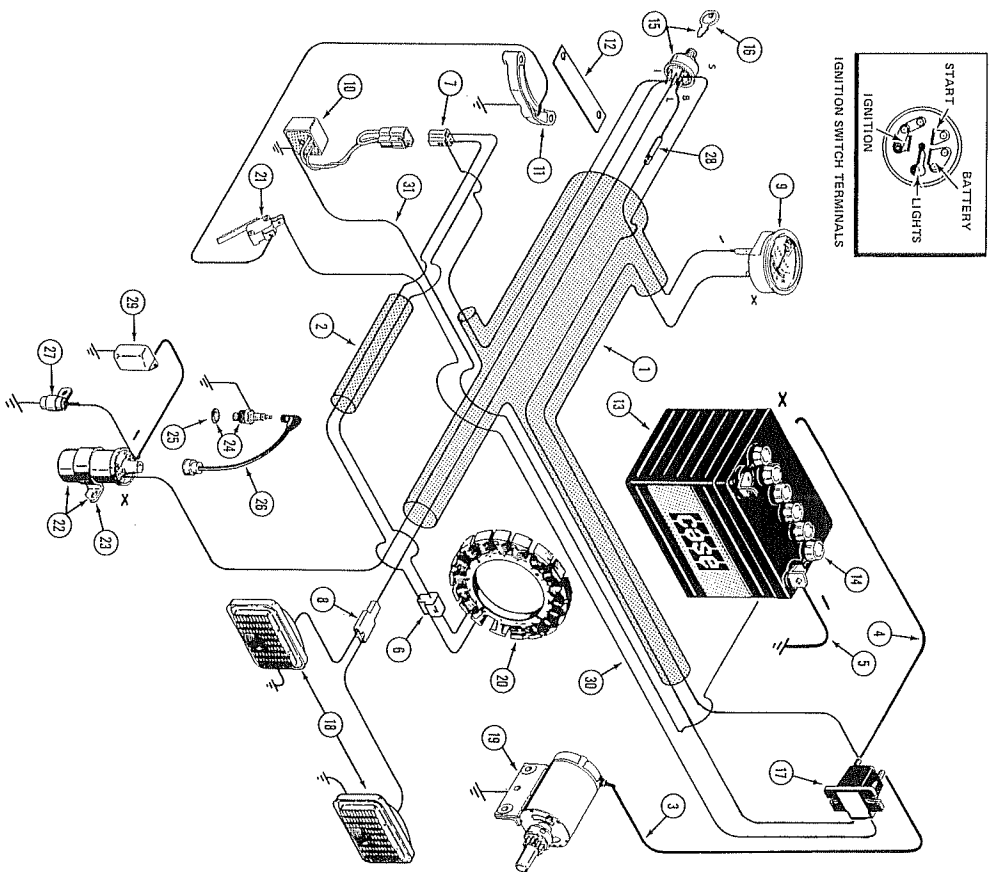
**Use S./N. and after:

220 - 14091130 224 - 14093065
222 - 14092090 444 - 14094825

STARTER

REF.	PART NO.	DESCRIPTION	REQ'D
1	24889	STARTER ASSEMBLY	1
2	28681	BOLT - thru	2
3	28689	CAP - end	1
4	28684	KIT - commutator cap	1
5	NSS	CAP - commutator	1
6	28683	KIT - brush and spring	1
7	NSS	KIT - brush holder	1
8	NSS	KIT - hardware	1
9	28682	WASHER - armature thrust	1
10	C	ARMATURE	1
11	24890	KIT - drive	1
12	C	SPRING - anti-drift	1
13	28685	SPACER - gear stop	1
14	NSS	GEAR - drive	1
15	NSS	NUT - gear stop	1
16	NSS	COVER - dust	1
17	24892	SPACER - dust cover	1
18	NSS	BOLT - shoulder 3/8" - 20 x 1-5/16"	2
19	C	LOCK WASHER - 3/8"	2
20	192-24880	DECAL - "DO NOT STRIKE"	1

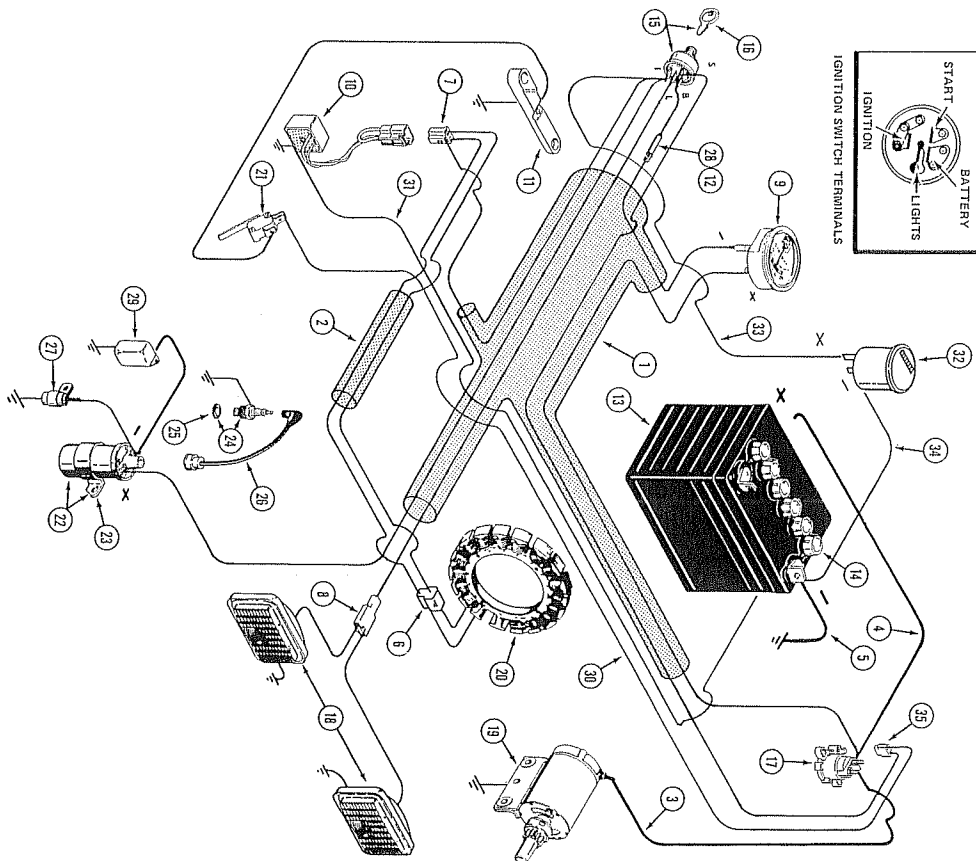
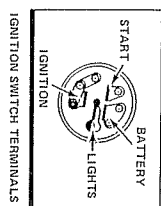




MODEL 220, 222, 224 AND 444 COMPACT TRACTORS

ELECTRICAL SYSTEM
USE BEFORE S/N:
220 - 14054346 222 - 14055580
224 - 14056510 444 - 14059000

REF.	PART NO.	DESCRIPTION	REQ'D
1	25664	HARNES - wire	1
2	24815	HARNES - wire	1
3	24816	CABLE - solenoid to starter (black)	1
4	14865	CABLE - solenoid to battery positive (red)	1
5	24814	CABLE - battery negative to ground (black)	1
6	24813	CONNECTOR - wire harness	1
7	25338	CONNECTOR - stator	1
8	25486	CONNECTOR - rectifier	1
9	14537	CONNECTOR - lights	1
10	29413	AMMETER - 30 amperes, 12v	1
11	31248	RECTIFIER - voltage, 12v	1
12	28003	SWITCH - neutral start (includes wire)	1
13	21989	INSULATOR - locator	1
14	NSS	BATTERY - 12v (use C31213)	1
15	18113	CAP - battery	6
16	30268	SWITCH ASSEMBLY - ignition (includes key and lock washer)	1
17	32407	KEY - ignition	1
18	26525	SOLENOID - start, 12v	1
19	32176	HEADLAMP ASSEMBLY - 12v (repairs page 77)	2
20	24889	STARTER - bendix drive (repairs page 67)	1
21	28692	STATOR	1
22	26108	SWITCH - neutral start, PTO	1
23	231281	COIL - ignition, 12v (includes bracket)	1
24	28694	BRACKET - coil mounting	1
25	29738	SPARK PLUG - (includes gasket)	1
26	28673	GASKET - spark plug	1
27	28693	KIT - high tension cable	1
28	KO 230722	CONDENSER	1
29	223-30	FUSE - 30 amperes (included in harness)	1
30	NSS	HOLDER - fuse, 30 amp (use C31947)	1
31	25663	BREAKER CONTACT ASSEMBLY - ignition (repairs page 79)	1
	26670	WIRE - solenoid to neutral start	1
		WIRE - ground, rectifier to battery negative	1



REF.	PART NO.	DESCRIPTION	REQ'D
1	27527	HARNES - wire	1
2	24815	CABLE - solenoid to starter (black)	1
3	31944	CABLE - solenoid to battery positive (red)	1
4	14565	CABLE - battery negative to ground (black)	1
5	24814	CONNECTOR - wire harness	1
6	24813	CONNECTOR - stator	1
7	25338	CONNECTOR - rectifier	1
8	25466	CONNECTOR - lights	1
9	14537	AMMETER - 30 amperes, 12v	1
10	29413	RECTIFIER - voltage, 12v	1
11	31249	SWITCH - neutral start (includes wire)	1
12	28003†	LOCATOR ASSEMBLY - neutral start (see page 65)	1
13	29646††	HOLDER - fuse 30 amp (use C31947)	1
14	NSS	BATTERY - 12v (use C31213)	1
15	18113	CAP - battery (screw type)	6
16	29074	SWITCH - battery (push type)	1
17	30268	KEY - ignition (includes key, mounting hardware)	1
18	32407	SOLENOID - start, 12v	1
19	27523	HEADLAMP ASSEMBLY - 12v (repairs page 77)	2
20	22571	STARTER - bendix drive (repairs page 67)	1
21	32178	STATOR	1
22	28692	SWITCH - neutral start, PTO	1
23	26108	COIL - ignition, 12v (includes bracket)	1
24	KO 231281	BRACKET - coil mounting	1
25	28694	SPARK PLUG - (includes gasket)	1
26	29738	GASKET - spark plug	1
27	28693	KIT - high tension cable	1
28	KO 230722	CONDENSER	1
29	223-30	FUSE - 30 amperes (included in harness)	1
30	NSS	BREAKER CONTACT ASSEMBLY - ignition (repairs page 79)	1
31	27530	WIRE - solenoid to neutral start	1
32	26670	WIRE - ground, rectifier to battery negative	1
33	C 28304*	HOURMETER - (shown)	1
34	C 33415**	WIRE - hourmeter to ignition switch	1
35	29411	WIRE - hourmeter to battery negative (-)	1
36	29412	CONNECTOR - solenoid	1
36	27549		1

*Use before S/N:

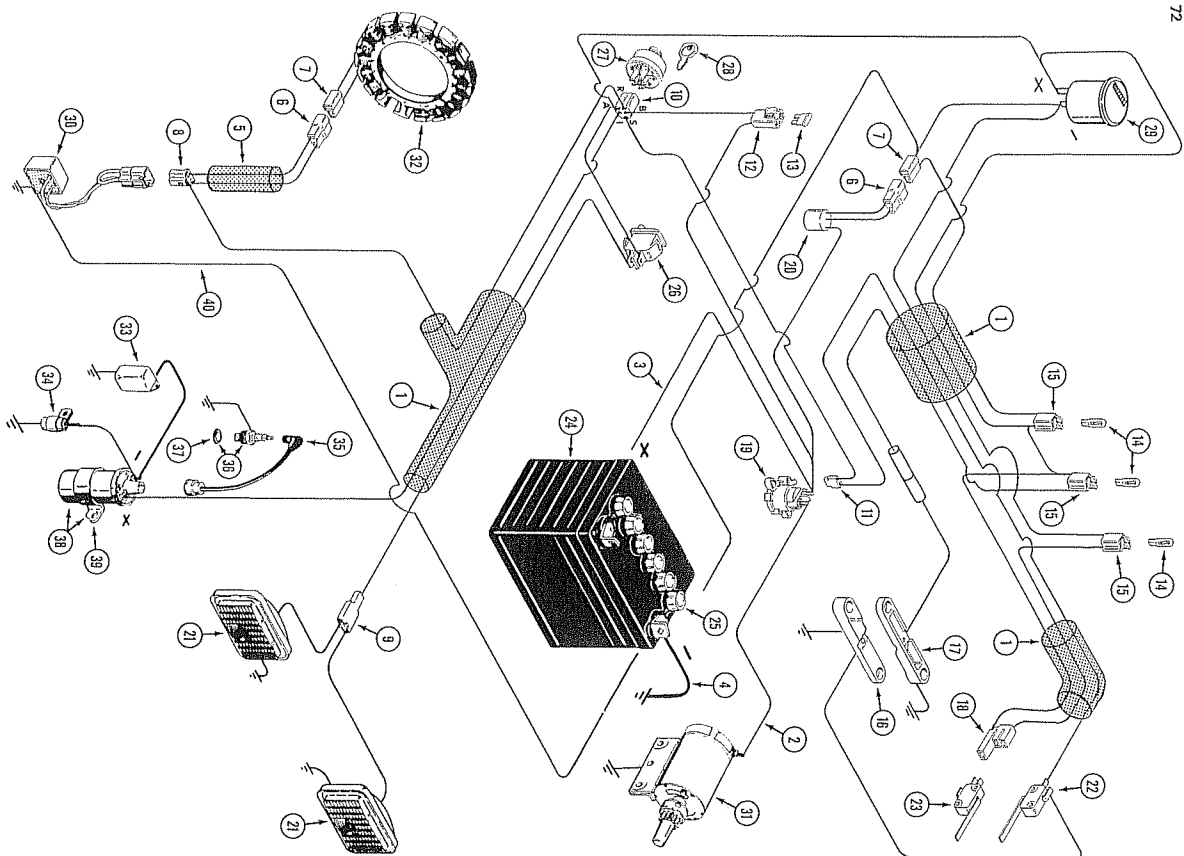
**Use S/N and after:

220 - 14068672
222 - 14069604
224 - 14070707
444 - 14072835

†Use before S/N:

††Use S/N and after:

220 - 14068705
222 - 14069635
224 - 14070733
444 - 14072850



REF.	PART NO.	DESCRIPTION	REQ'D
1	C 30264	HARNESSES - wire	1
2	C 31944	CABLE - solenoid to starter	1
3	C 14565	CABLE - solenoid to battery positive	1
4	C 24814	CABLE - battery negative to ground	1
5	C 24815	HARNESSES - wire	1
6	C 24813	CONNECTOR - wire	2
7	C 25338	CONNECTOR - wire	2
8	C 25486	CONNECTOR - rectifier	1
9	C 14537	CONNECTOR - lights	1
10	C 24460	CONNECTOR - switch	1
11	C 27549	CONNECTOR - solenoid	1
12	C 31947	HOLDER - fuse	1
13	C 30260	FUSE - 30 AMP	1
14	C 30262	BULB - light	3
15	C 30263	SOCKET - bulb	3
16	C 29650	LOCATOR HALF - neutral start (see page 65)	1
17	C 30450	SWITCH - neutral light (see page 65)	1
18	C 30279	CONNECTOR - switch	1
19	C 27523	SOLENOID - start, 12v	1
20	C 30265	SENSOR - voltage	1
21	C 32178	HEADLAMP ASSEMBLY - 12v (repairs page 77)	2
22	C 26108	SWITCH - neutral start	1
23	C 30275	SWITCH - PTO light	1
24	C 29074	BATTERY - 12v (use C31213)	1
25	C 29322	CAP - battery	6
26	C 30480*	SWITCH - head lamp	1
27	C 30480*	SWITCH ASSEMBLY - ignition (includes key and mounting hardware)	1
28	C 30630**	SWITCH ASSEMBLY - ignition (includes key and mounting hardware)	1
29	C 32407	Key - ignition	1
30	C 33415	HOURMETER	1
31	C 31249	RECTIFIER - voltage 12v	1
32	C 24889	STARTER - bendix drive (repairs page 67)	1
33	C 28692	STATOR	1
34	C 230722	BREAKER CONTACT ASSEMBLY - ignition (repairs page 79)	1
35	C 28693	CONDENSER	1
36	C 29738	KIT - high tension cable	1
37	C 28673	SPARK PLUG - includes gasket	1
38	C 231281	GASKET - spark plug	1
39	C 28694	COIL - ignition, 12v (includes bracket)	1
40	C 26670	BRACKET - coil mounting	1
		WIRE - solenoid lower mounting bolt to battery (-)	1

*Use before S/N:
 **Use S/N and after:

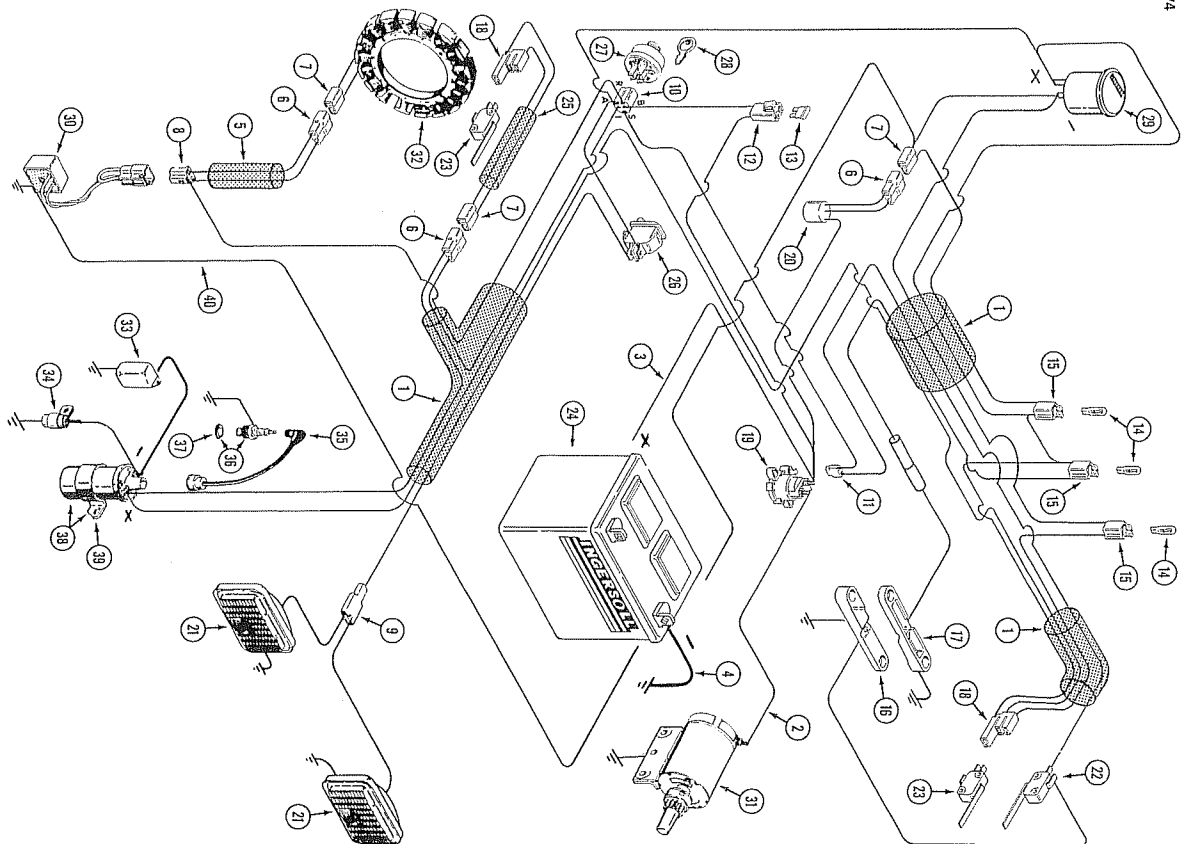
220 - 14106917
 222 - 14108020
 224 - 14109118
 444 - 14111235

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February 1992

ELECTRICAL SYSTEM

Use S/N:
 220 - 14091130 to 14107095
 222 - 14092090 to 14108205
 224 - 14093065 to 14109285
 444 - 14094825 to 14111340

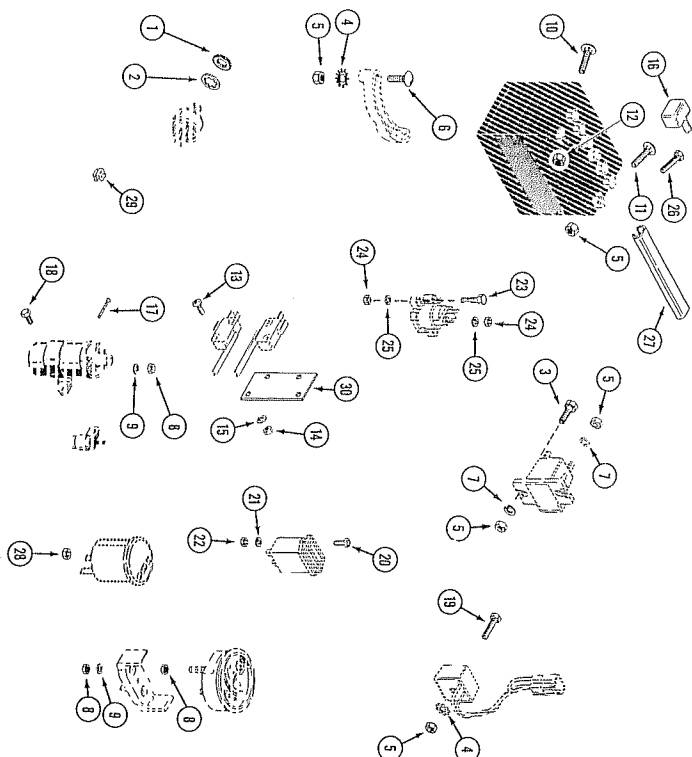


ELECTRICAL SYSTEM

Use S/N and after:

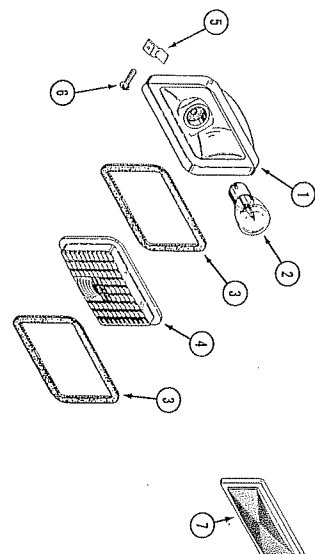
- 220 - 14107095
- 222 - 14108205
- 224 - 14109285
- 444 - 14111340

REF.	PART NO.	DESCRIPTION	REQD
1	31029	HARNES - wire	1
2	31944	CABLE - solenoid to starter	1
3	14665	CABLE - solenoid to battery positive	1
4	24814	CABLE - battery negative to ground	1
5	24815	HARNES - wire	1
6	24813	CONNECTOR - wire	2
7	25338	CONNECTOR - rectifier	2
8	25486	CONNECTOR - lights	1
9	14537	CONNECTOR - switch	1
10	24460	CONNECTOR - solenoid	1
11	27549	HOLDER - fuse	1
12	31947	FUSE - 30 AMP	1
13	30260	BULB - light	3
14	30262	SOCKET - bulb	3
15	30263	LOCATOR HALF - neutral start (see page 65)	1
16	29660	SWITCH - neutral light (see page 65)	1
17	30460	CONNECTOR - switch	1
18	30279	SOLENOID - start, 12v	1
19	27823	SENSOR - voltage	1
20	30265	HEADLAMP ASSEMBLY - 12v (repairs page 77)	2
21	32178	SWITCH - neutral start	1
22	26108	SWITCH - interloc.	1
23	30275	BATTERY - 12v	1
24	31213	HARNES - seat interlock switch	1
25	31044	SWITCH ASSEMBLY - ignition (includes key and mounting hardware)	1
26	29322	KEY - ignition	1
27	30530	HOURMETER	1
28	32407	RECTIFIER - voltage 12v	1
29	33415	STARTER - bendix drive (repairs page 67)	1
30	31249	STARTER	1
31	24889	BREAKER CONTACT ASSEMBLY - ignition (repairs page 79)	1
32	28692	CONDENSER	1
33	NSS	KIT - high tension cable	1
34	230722	SPARK PLUG - includes gasket	1
35	28693	GASKET - spark plug	1
36	29738	COIL - ignition, 12v (includes bracket)	1
37	28673	BRACKET - coil mounting	1
38	231281	WIRE - solenoid lower mounting bolt to battery (-)	1
39	28694		
40	26670		



REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	NUT - switch mounting 5/8" (use C32396, C32397)	1
2	23330	NUT - switch mounting 9/16"	1
3	C 23012	LOCK WASHER - internal tooth	1
4	113- 3	BOLT - 1/4" - 20 x 3/4" hex	2
5	193- 57	LOCK WASHER - 1/4" external tooth	3
6	129- 101	NUT - 1/4" - 20 hex	UAR
7	192- 139	BOLT - 1/4" - 20 x 1" rd. head sq. neck	2
8	192- 19	LOCK WASHER - 1/4"	4
9	192- 27	NUT - #10 N.F. hex	2
10	192- 18	LOCK WASHER - #10	2
11	111- 202	BOLT - 5/16" x 3/4" N.C. rd. head sq. neck	1
12	111- 108	BOLT - 1/4" x 3/4" N.C. rd. head sq. neck	1
13	129- 102	NUT - 5/16" N.C. hex	UAR
14	182- 10	SCREW - #4 - 40 x 7/8" N.C. pan head	1
15	129- 13	NUT - #4 - 40 hex	UAR
16	C 24069	LOCK WASHER - #4	UAR
17	NSS	COVER - terminal	1
18	NSS	SCREW - #10 x 1-1/2" N.F. self tap (obtain locally)	1
19	113- 17	BOLT - 5/16" x 1/2" N.C. hex, self tap (obtain locally)	2
20	182- 571	BOLT - 1/4" - 20 x 1-1/4" hex	1
21	192- 15	SCREW - #6 - 32 x 1/2" pan head, black	2
22	129- 15	LOCK WASHER - #6	2
23	182- 147	NUT - #6 - 32 hex	2
24	129- 37	BOLT - #10 - 32 x 3/4"	4
25	192- 18	NUT - #10 - 32 hex	4
26	113- 3	LOCK WASHER - #10	2
27	NSS	BOLT - 1/4" - 20 x 3/4" hex head	4
28	129- 36	COVER - battery vent (no longer available)	1
29	C 19521	NUT - #8-36	2
30	C 30276*	CLIP - headlight wire	1
	KO 275182	CLIP - headlight mounting	1
		CLIP - switch mounting	1
		CLIP - breaker contact wire	1

ELECTRICAL SYSTEM HARDWARE



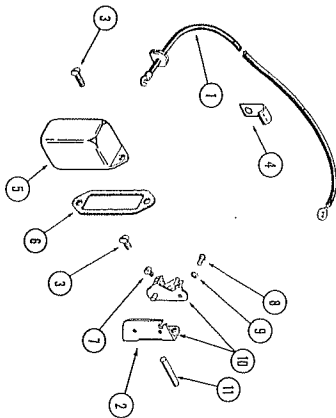
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 32178	HEADLAMP ASSEMBLY	2
2	NSS 28932	RECEPTACLE - headlamp (order C22571)	1
3	C 14304	BULB - headlamp	1
4	C 22573	GASKET - headlamp	2
5	131- 629	LENS - headlamp	1
6	187- 1334	NUT - speed type "U"	4
7	NSS	SCREW - No. 8 x 1/2" self-tapping, round hd. Phillips	4
		REFLECTOR - red (use C30942)	2

HEADLAMP ASSEMBLY AND REAR REFLECTORS

*Use S/N:
 220 - 14091130 to 14091218
 222 - 14092090 to 14092185
 224 - 14093065 to 14093127
 444 - 14094825 to 14097742

BREAKER CONTACTS

REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	LEAD - breaker contact (order from local supplier)	1
2	NSS	BRACKET - breaker contacts	1
3	182-516	SCREW - #10 x 3/8" round head, zinc plated	4
4	KO 275182	RETAINER - wire	1
5	C 26695	COVER - breaker contact	1
6	C 26518	GASKET - cover	1
7	NSS	SCREW - #6 x 3/8" self-tapping (obtain locally)	1
8	NSS	SCREW - #8 x 1/4" N.C. round head (obtain locally)	1
9	193-91	LOCK WASHER - #8 internal tooth	1
10	C 27439	POINT SET - breaker contact assembly	1
11	C 27440	ROD - breaker contact push	1

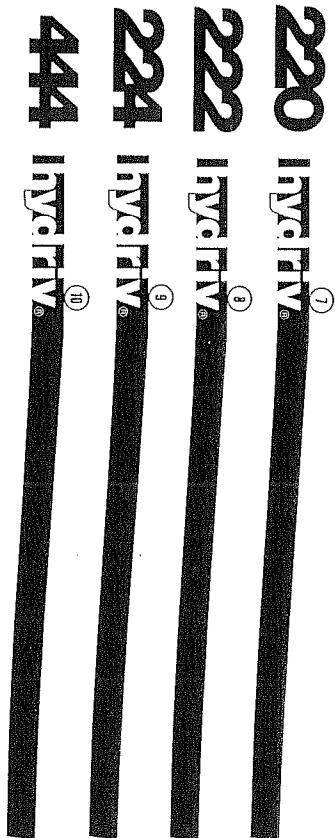
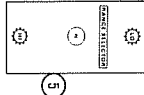
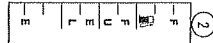
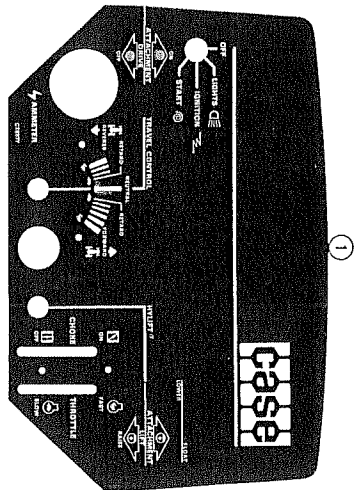


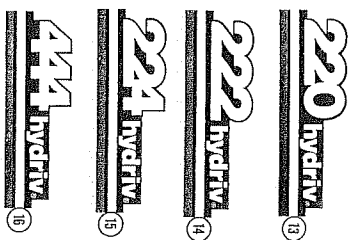
DECALS

USE BEFORE S/N:
220 - 14054525 222 - 14055920
224 - 14056730 444 - 14059200

(English)

REF.	PART NO.	DESCRIPTION	REQ'D
1	26877	DECAL - instrument panel	1
2	26869	DECAL - fuel tank gauge	1
3	321- 4767	DECAL - hydraulic reservoir	1
4	321- 6559	DECAL - "caution"	1
5	321- 1788	DECAL - shift range	1
6	27481	DECAL - brake	1
7	27173	DECAL - hood, L.H. (220)	1
8	27184	DECAL - hood, R.H. (220) shown	1
9	27174	DECAL - hood, L.H. (222)	1
10	27185	DECAL - hood, R.H. (222) shown	1
11	27175	DECAL - hood, L.H. (224)	1
12	27186	DECAL - hood, R.H. (224) shown	1
13	27177	DECAL - hood, L.H. (444)	1
14	27187	DECAL - hood, R.H. (444) shown	1
15	NSS	MEDALLION - "CASE" (no longer available)	1





(ENGLISH)

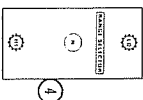
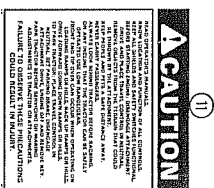
REF.	PART NO.	DESCRIPTION	REQD.
1	C 29740**	DECAL - instrument	1
1	C 27944*	DECAL - instrument panel	1
2	C 26689	DECAL - fuel tank gauge	1
3	32-1 4767	DECAL - hydraulic reservoir	1
4	32-1 1788	DECAL - shift range	1
5	C 27671	DECAL - brake	1
6	C 27924	DECAL - hood "220 hvdytr" L.H. (shown)	1
7	C 27915	DECAL - hood "222 hvdytr" R.H. (shown)	1
8	C 27926	DECAL - hood "222 hvdytr" R.H.	1
9	C 27916	DECAL - hood "224 hvdytr" L.H. (shown)	1
8	C 27927	DECAL - hood "224 hvdytr" R.H.	1
9	C 27918	DECAL - hood "444 hvdytr" L.H. (shown)	1
10	C 27928	DECAL - hood "444 hvdytr" R.H.	1
9	NSS	MEDALLION - "CASE" (no longer available)	1
11	32-1 6659	DECAL - "Caution"	1
12	C 27962	DECAL - "ingersoll" stripe L.H. (shown)	1
13	C 27964	DECAL - "ingersoll" stripe R.H.	1
14	C 27963*	DECAL - seat back "220 hvdytr"	1
13	C 27964*	DECAL - seat back "222 hvdytr"	1
15	C 27956*	DECAL - seat back "224 hvdytr"	1
16	C 27957	DECAL - seat back "444 hvdytr"	1
17	C 297402*	DECAL - "INGERSOLL" seat back	1

```
## Use S/N and after:
```

444 - 14072835



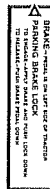
3



February 1992

220 - 14091130 to 14107095
222 - 14092090 to 14108205
224 - 14093065 to 14109285
444 - 14094825 to 14111340

REF.	PART NO.	QTY	UNIT	PRICE	TOTAL
1	NSS	26695			
2	C	4767			
3	321-	1788			
4	321-	2787			
5	C	2791			
6	C	2792			
7	C	2791B			
8	C	2792			
9	C	2791B			
10	NSS	2792			
11	321-	6655			
12	C	2796			
13	C	2796			
14	C	3209			
	C	30274			

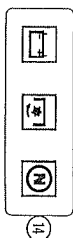
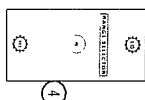
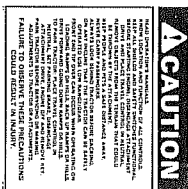
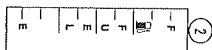


12
INGERSOLL

**INGERSOLL** ①

11

⚠ CAUTION



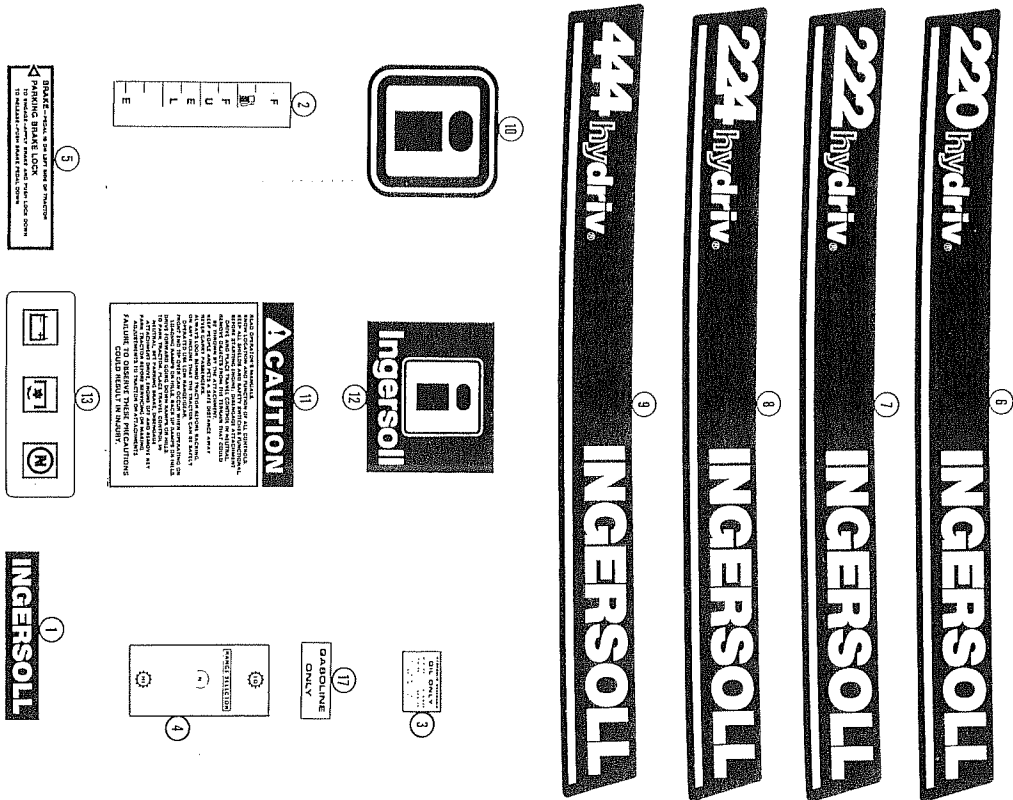
February 1992

DECALS

Use S/N and after:
220 - 14107095
222 - 14108205
224 - 14108285
444 - 14111340

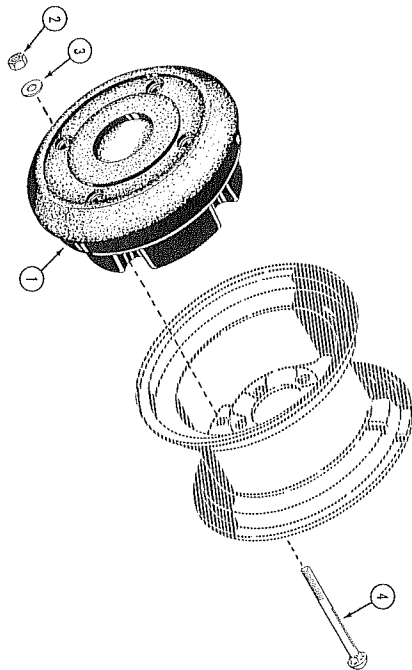
(ENGLISH)

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 31050	DECAL - "Ingersoll"	1
2	C 20699	DECAL - fuel tank gauge	1
3	321- 4767	DECAL - hydraulic reservoir	1
4	321- 1788	DECAL - shift range	1
5	C 27871	DECAL - brake	1
6	C 30954	DECAL - hood "220 hydrtv" L.H. (shown)	1
7	C 30955	DECAL - hood "220 hydrtv" R.H.	1
8	C 30956	DECAL - hood "222 hydrtv" L.H. (shown)	1
9	C 30957	DECAL - hood "222 hydrtv" R.H.	1
10	C 30958	DECAL - hood "224 hydrtv" L.H. (shown)	1
11	C 30959	DECAL - hood "224 hydrtv" R.H.	1
12	C 30962	DECAL - hood "444 hydrtv" L.H. (shown)	1
13	C 30963	DECAL - hood "444 hydrtv" R.H.	1
	321- 6659	MEDALLION - logo	1
	C 32093	DECAL - "Caution"	1
	C 30274	DECAL - "Ingersoll" seal back	1
		LENS - display	1



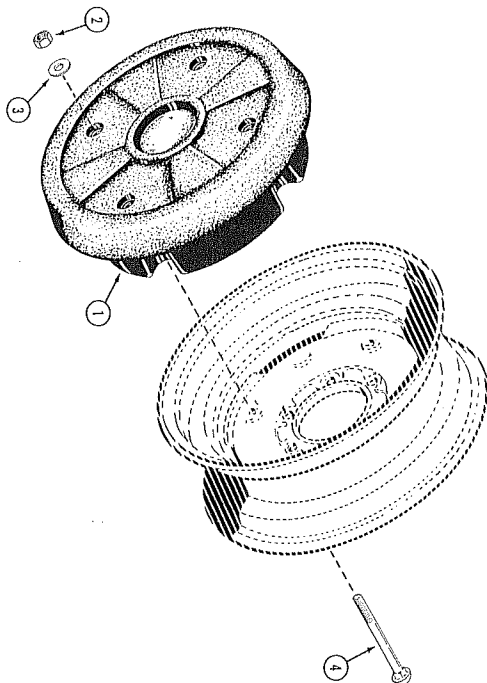
K8 WHEEL WEIGHTS — MODEL 220, 222, AND 224

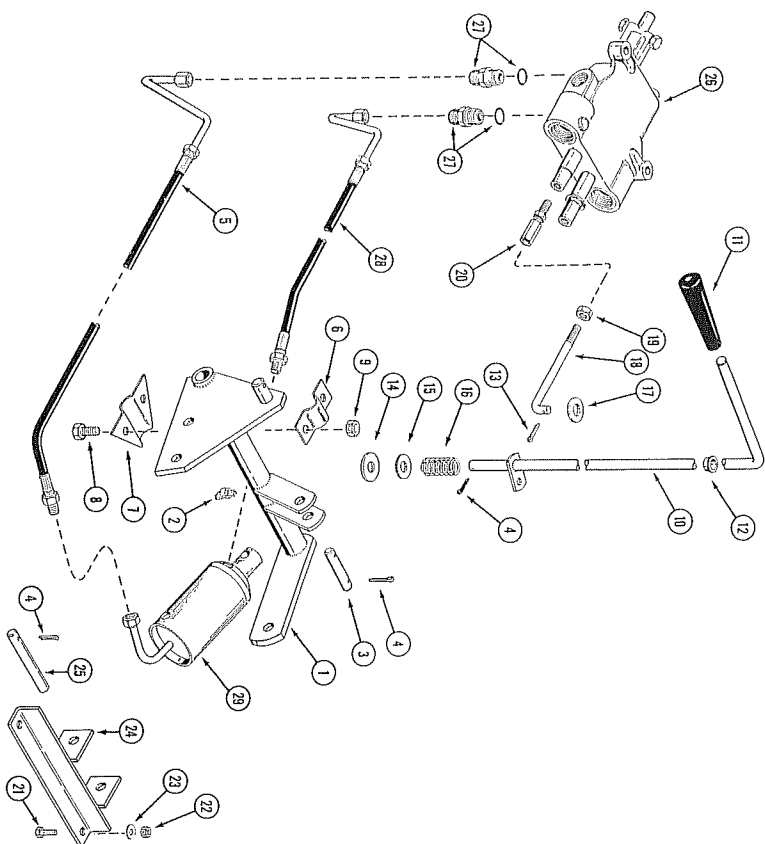
REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	WEIGHT - wheel 55 lb. (Order as Machinery Item)	2
2	131-	NUT - 1/2" N.C. hex lock	8
3	195-	WASHER - 1/2"	8
4	111-	BOLT - 1/2" x 7" carriage	8
	C	BOLT - 1/2" - 13 x 8-1/2" carriage	8
		30545	



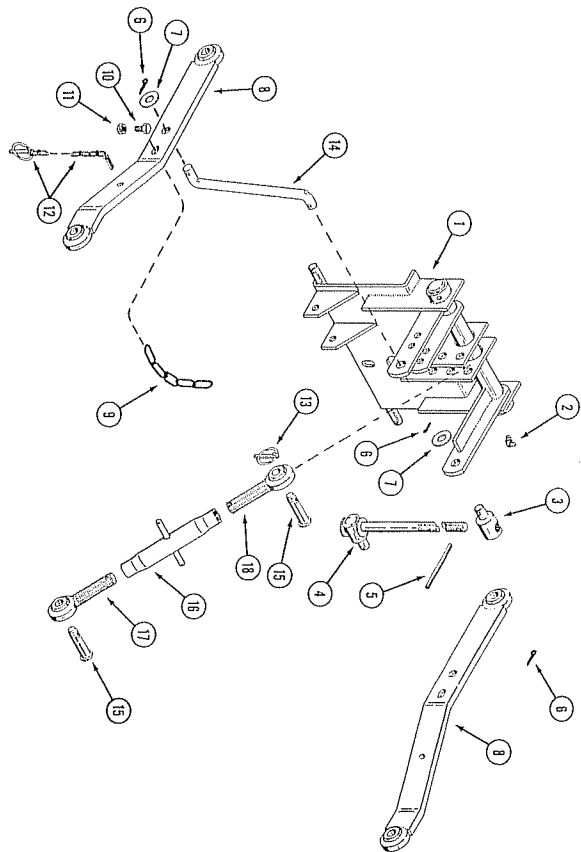
K10 WHEEL WEIGHTS — MODEL 444

REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	WEIGHT - wheel 75 lb. (Order as Machinery Item)	2
2	131-	NUT - 1/2" N.C. hex lock	8
3	195-	WASHER - 1/2"	8
4	111-	BOLT - 1/2" x 6" Rd. head Sq. neck	8
		525	





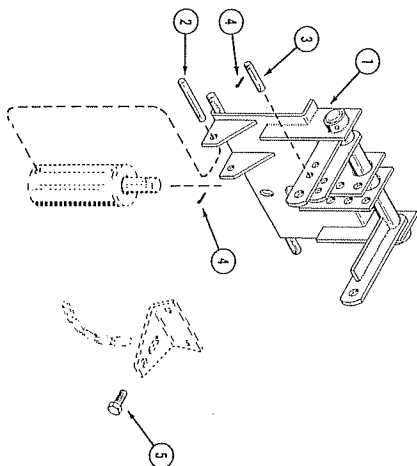
REF.	PART NO.	DESCRIPTION	REQD
1	C 19661	ROCKSHAFT ASSEMBLY - (444)	1
1	C 18808	ROCKSHAFT ASSEMBLY - (220, 222 and 224 shown	1
2	C 219-	FITTING - tube	1
3	C 18251	PIN - cylinder to lever	1
4	C 310	PIN - cotter 1/8" x 1"	4
5	C 17734	HOSE - long	1
6	C 17249	BRACKET - mounting, top	2
7	C 17250	BRACKET - mounting, bottom	2
8	C 113-	BOLT - 3/8" x 1" N.C. hex	4
9	C 131-	NUT - 3/8" N.C. hex	4
10	C 29408	LEVER - lift control	1
11	C 29045	KNOB - control lever	1
12	C 27593	BUSHING - lift lever	1
13	C 132-	PIN - cotter 3/32" x 3/4"	1
14	C 195-	WASHER - 1/2"	1
15	C 533	WASHER - nylon	1
16	C 27822	SPRING - control lever	1
17	C 195-	WASHER - 5/16"	1
18	C 18742	ROD - control	1
19	C 1729-	NUT - 5/16" N.F. hex	1
20	C 19025	BALL JOINT	1
21	C 113-	BOLT - 3/8" x 1" N.C. hex	2
22	C 131-	LOCK NUT - 3/8" N.C. hex	2
23	C 195-	WASHER - 3/8" x 1-1/8" OD	2
24	C 33138	BRACKET - cylinder	1
25	C 26188	PIN - cylinder foot	1
26	C 27217	VALVE - hydraulic, 2 spool	1
27	C 218-	FITTING - valve (includes 218-5004 "O" ring)	2
28	C 195	HOSE - short (use C31682, 218-1093)	1
29	C 30054	CYLINDER - lift (order C27590, C30049)	1
	C 13106	KIT - seal	1
		COVER - tube fitting	1



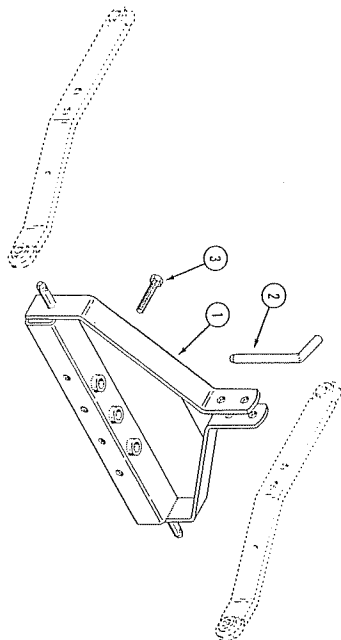
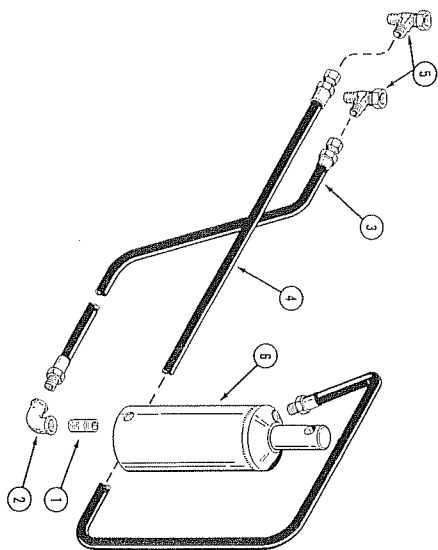
REF.	PART NO.	DESCRIPTION	REQ'D
1	19740	HITCH PLATE ASSEMBLY	1
2	219-405	FITTING - tube	1
3	24447	ROD ASSEMBLY - lift R.H.	2
4	14722	NUT - lift rod	1
5	14724	ROD ASSEMBLY - R.H. lift	1
6	138-308	PIN - roll 1/4" x 3"	1
7	132-91	PIN - cotter 3/16" x 1"	6
8	195-541	WASHER - plain 5/8"	4
9	14715	ARM - lift	2
10	14991	CHAIN - stay 19 links	1
11	113-118	BOLT - 5/16" x 5/8" hex, zinc plated	2
12	131-176	NUT - lock 5/16" N.C. hex	2
13	28985	PIN - kirk	2
14	28222	PIN - kirk	3
15	14725	ROD - lift L.H.	1
16	14717	PIN - clevis	2
17	14703	LINK ASSEMBLY	1
18	32427	CENTER TUBE ASSEMBLY	1
		BALL END ASSEMBLY - R.H. thread	1
		BALL END ASSEMBLY - L.H. thread	1

J26 THREE POINT HITCH FRAME, LIFT RODS AND ARMS

J26 THREE POINT HITCH CYLINDER AND DRAWBAR MOUNTING



REF.	PART NO.	DESCRIPTION	REQ'D
1	19740	HITCH PLATE ASSEMBLY	1
2	26188	PIN - lower cylinder mounting	1
3	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" N.C. hex, zinc plated	2

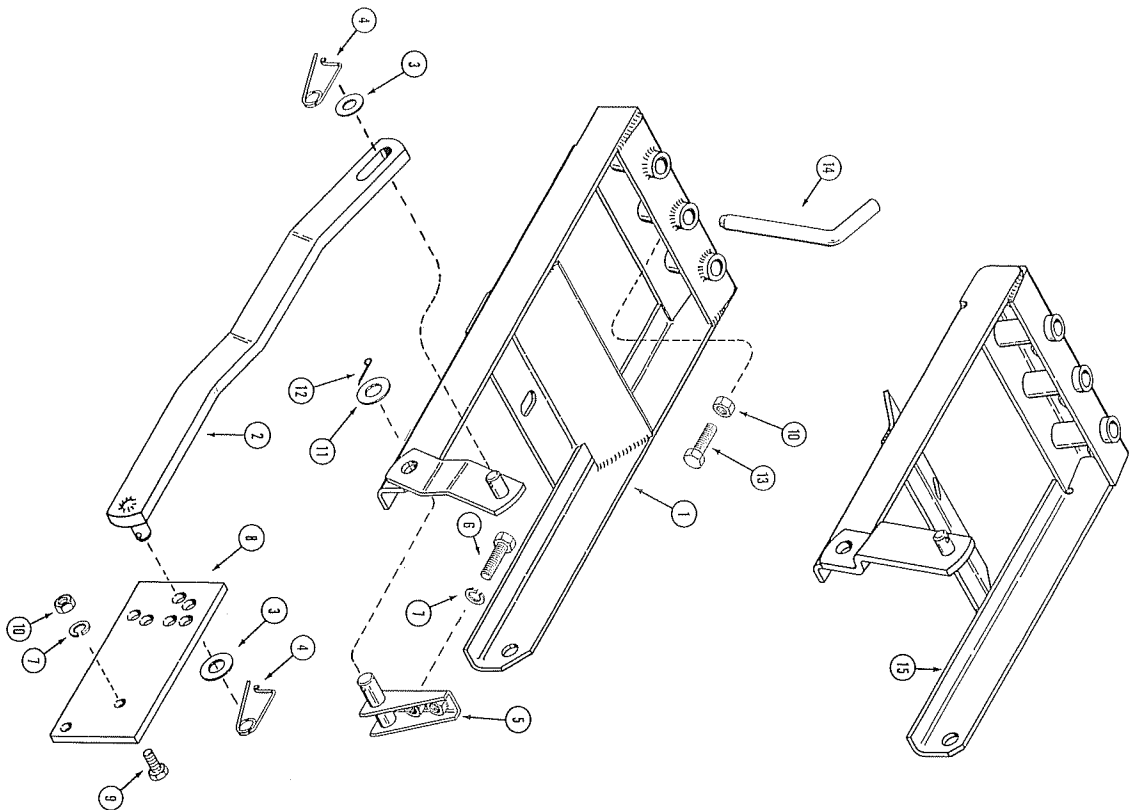


J26 THREE POINT HITCH AND
HYDRAULIC CONNECTIONS AND COMPONENTS

REF.	PART NO.	DESCRIPTION	REQ'D
1	221- 1139	NIPPLE - 1/4" x 3"	1
2	221- 1376	ELBOW - 90°	1
3	C 25369	HOSE - hydraulic short	1
4	C 25368	HOSE - hydraulic long	1
5	218- 5479	FITTING - Tee, swivel	2
6	NSS	CYLINDER ASSEMBLY - (order C26494 and C30049)	1
	C 30054	KIT - seal, cylinder	1

MODEL F-27 HITCH ADAPTER

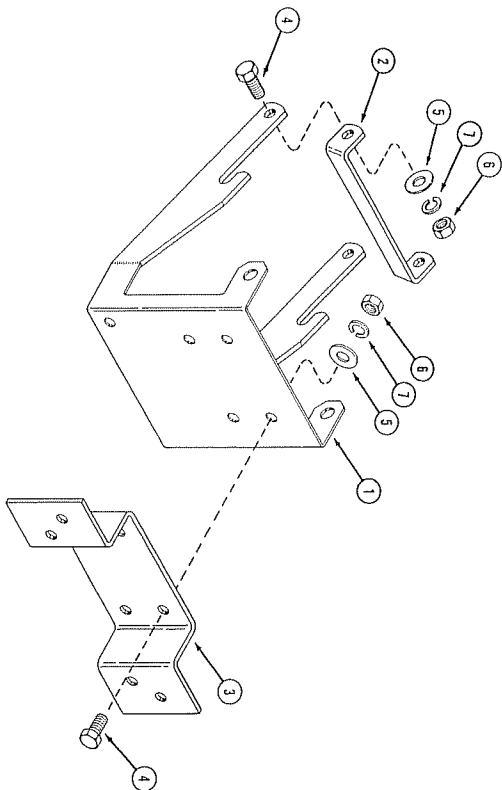
REF.	PART NO.	DESCRIPTION	REQ'D
1	NSS	BRACKET - hitch adapter (order as machinery item)	1
2	C 14568	PIN - drawbar	1
3	113- 476	BOLT - 1/2"x2-3/4"N.C. hex, zinc plated	2
4	129- 105	NUT - 1/2" - 13	2



REF.	PART NO.	DESCRIPTION	REQ'D
1	22218	HITCH FRAME ASSEMBLY - (444) (K24)	1
C	25371	ARM - lift	1
2	25371	WASHER - plain 21/32"	2
3	195-	PIN - safety	2
4	10898	BRACKET - hitch mounting R.H. shown	1
5	14459	BRACKET - hitch mounting L.H.	1
6	25789	BOLT - 1/2" x 1-3/8" N.C. hex, zinc plated	4
7	113-	LOCK WASHER - 1/2" zinc plated	6
8	2400	PLATE - lift lever	1
9	23	BOLT - 1/2" x 1-1/4" N.C. hex, zinc plated	2
10	25382	NUT - 1/2" N.C. hex, zinc plated	4
11	129-	WASHER - plain 3/4" zinc plated	2
12	845	PIN - cotter 3/16" x 1-3/4"	2
13	132-	BOLT - 1/2" x 2-3/4" N.C. hex, zinc plated	2
14	306	PIN - drawbar	1
15	476	HITCH FRAME ASSEMBLY - (220, 222, and 224) (K22)	1
C	14588		
C	23707		

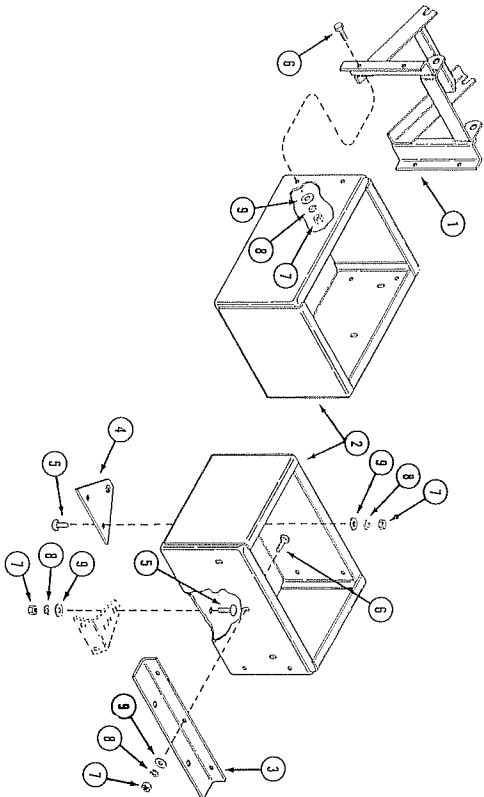
MODEL H18 FRONT END WEIGHT BRACKETS

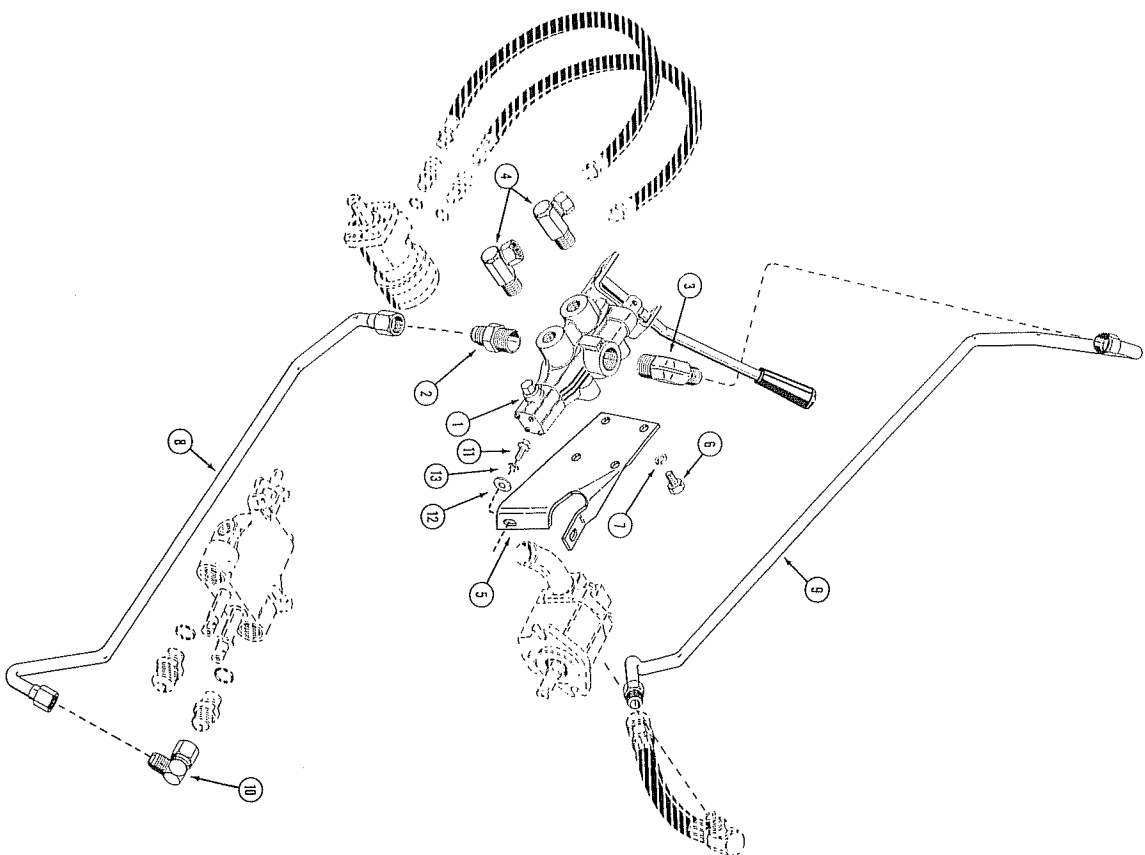
REF.	PART NO.	DESCRIPTION	REQ'D
1	16581	BRACKET - mounting.....	1
2	17161	BRACE - rear.....	1
3	17162	BRACKET - weight mounting.....	1
4	113-417	BOLT - 1/2" x 1 1/4" N.C. hex, zinc plated.....	6
5	195-533	WASHER - 1/2" zinc plated.....	8
6	129-105	NUT - 1/2" N.C. hex, zinc plated.....	8
7	192-23	LOCK WASHER - 1/2".....	8



MODEL H13 WEIGHT BOX

REF.	PART NO.	DESCRIPTION	REQ'D
1	17859	FRAME - weight box.....	1
2	17863	BOX - weight.....	1
3	17860	SUPPORT - weight box.....	1
4	17636	PLATE - hitch.....	1
5	111-371	BOLT - 3/8" x 1" round head, square neck.....	3
6	113-207	BOLT - 3/8" x 1" N.C. hex.....	4
7	129-103	NUT - 3/8" N.C. hex.....	7
8	192-21	LOCK WASHER - 3/8".....	7
9	195-525	WASHER - 3/8".....	7





REF.	PART NO.	DESCRIPTION	REQD
1	C 30044	VALVE - PTO control	1
2	218- 457	FITTING - straight 3/4" NPT x 5/8" tube	1
3	218- 494	FITTING - elbow 90° 3/4" NPT x 5/8" tube	1
4	218- 927	FITTING - elbow 90° 1/2" NPT x 1/2" female NPSM swivel	2
5	C 23337	BRACKET - valve mounting	1
6	113- 206	BOLT - 3/8" x 3/4" hex N.C.	4
7	192- 21	LOCK WASHER - 3/8"	4
8	C 23888	TUBE - PTO valve to travel control valve (J17) 220, 222, 224	1
9	C 25343	TUBE - PTO valve to travel control valve (L17) 444	1
10	C 25344	TUBE - pump to PTO valve (L17) 444	1
11	218- 5232	FITTING - pump to PTO valve (J17) 220, 222, 224	1
12	113- 103	FITTING - 90° swivel elbow 3/4" x 3/4" flange 3/4" NPT x 5/8" tube	3
13	195- 521	BOLT - 5/16" x 1" N.C. hex	3
14	195- 521	WASHER - 5/16"	3
15	192- 20	LOCK WASHER - 5/16"	3

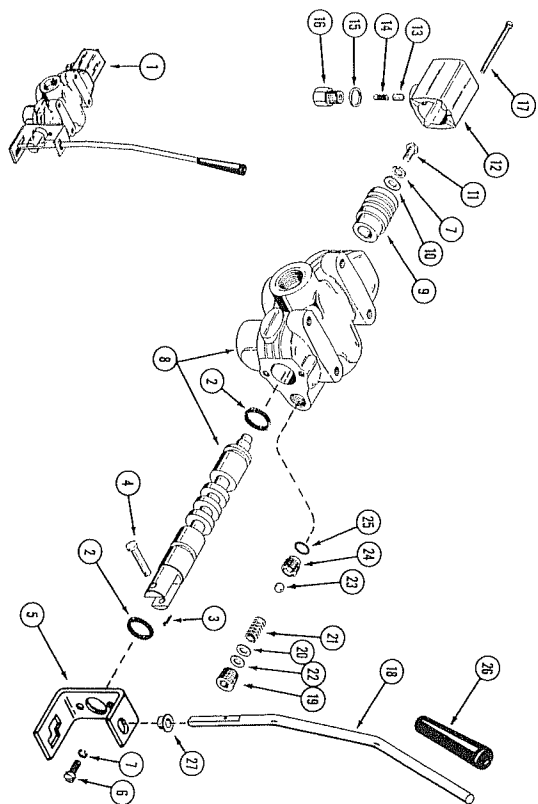
J17 AND L17 HYDRAULIC PTO KIT

MODEL 220, 222, 224 AND 444 COMPACT TRACTORS

701

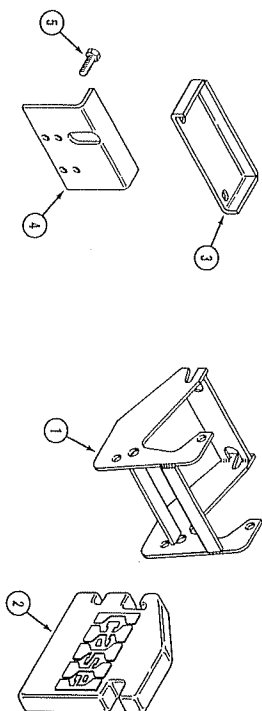
J17 AND L17 HYDRAULIC PTO VALVE

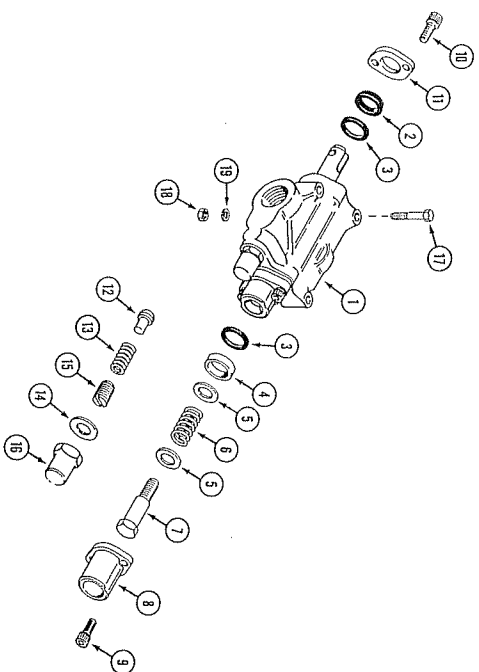
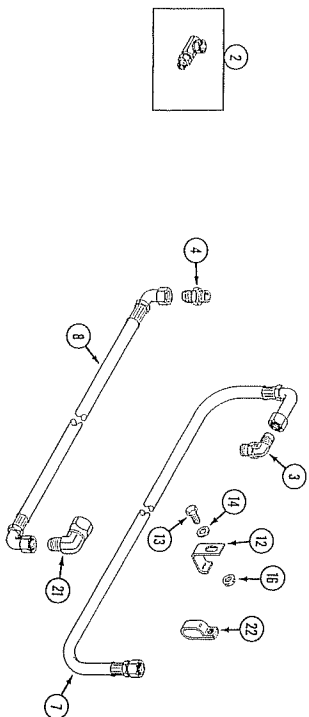
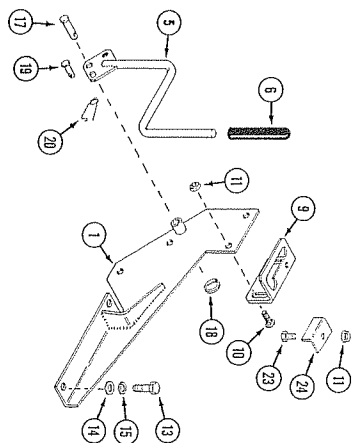
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 30044	VALVE - control	1
2	C 11891	SEAL - U-cup	2
3	132-	PIN - cotter 1/16" x 3/4"	1
4	C 28675	PIN - handle	1
5	C 19422	BRACKET - handle	1
6	NSS	SCREW - 1/4" x 5/8" N.C. filister head (use 165-143)	1
7	192-	LOCK WASHER - 1/4"	2
8	NSS 19	BODY AND SPOOL ASSEMBLY - (use C30044 valve)	3
9	C 11895	ADAPTER - spool	1
10	C 195-	WASHER - plain 1/4"	1
11	75-	SCREW - 1/4" x 1/2" rd. hd. machine	1
12	C 11893	BONNET - detent	1
13	C 11901	PIN - detent	1
14	C 11892	SPRING - detent	1
15	C 11896	WASHER - detent spring	1
16	C 11887	CAP - detent	1
17	169-	SCREW - bonnet #8 - 32 x 2-1/4" filister head	4
18	C 19423	LEVER - valve	1
19	221-	PLUG - relier 3/8" NPT	1
20	C 1842	SHIM - .010" (0.25 mm) thick	1
21	C 28700	SHIM - .010" (0.25 mm) thick	1
22	C 28716	SPRING - relief	1
23	C 28698	SHIM - .020" (0.51 mm) thick	1
24	211-	BALL - relief 3/8"	1
25	C 11	SEAT - relief	1
26	C 18417	"O" RING - relief seat	1
27	C 28696	KNOB - hand throttle	1
	C 29045	BUSHING - nylon	1
	C 26266		1



L11 WEIGHT KIT

1	C 25672	BRACKET - mounting, front	1
2	C 30845	WEIGHT - 40 lb. (18 kg)	4
3	C 25791	BRACKET - mounting, rear, upper	1
4	C 25792	BRACKET - mounting, rear, lower	1
5	113-	BOLT - 1/2" - 13 x 1-1/4" hex	2
	417		





**M17 HYDRAULIC PTO (220, 222, 224)
N17 HYDRAULIC PTO (444)
PTO HOSES AND MOUNTING BRACKET**

REF.	PART NO.	DESCRIPTION	REQ'D
1	C 32200	BRACKET - valve mounting	1
2	218- 5201	FITTING - workport, 90° elbow 7/8" - 14 x 1/2" NPSM swivel	2
3	218- 5107	FITTING - inlet port, 7/8" - 14 x 7/8" 14 flare, 90° adjustable elbow	1
4	218- 5062	FITTING - outlet port, 7/8" - 14 x 7/8" - 14 flare, straight	1
5	C 32403	HANDLE - valve	1
6	C 26020	GRIP - handle	1
7	C 32423	HOSE - pump to PTO 56" (M17) 220, 222, 224	1
7	C 32424	HOSE - pump to PTO 54" (N17) 444	1
8	C 32209	HOSE - PTO to travel valve 32" (M17) 220, 222, 224	1
8	C 32210	HOSE - PTO to travel valve 34" (N17) 444	1
9	C 32211	BRACKET - handle guide	1
10	111- 101	NUT - 1/4" - 20 x 5/8" carriage	1
11	131- 934	BOLT - 1/4" - 20 flange lock	2
12	C 32332	CLAMP - tube (M17) 220, 222, 224	1
13	113- 103	BOLT - 5/16" - 18 x 1"	3
14	195- 521	WASHER - 5/16"	3
15	192- 20	LOCKWASHER - 5/16"	2
16	131- 911	NUT - 5/16" - 18 flange lock	1
17	C 32214	PIN - clevis 3/8" x 1-1/2"	1
18	C 28105	RING - retaining	1
19	C 28964	PIN - clevis 3/16" x 1"	1
20	C 10883	PIN - safety	1
21	218- 5232	FITTING - hydraulic 90° swivel (travel valve inlet)	1
22	C 32213	CLAMP - tube	1
23	113- 3	BOLT - 1/4" - 20 x 3/4"	1
24	C 32327	BRACKET - handle stop	1
	C 22947	TIE - nylon	1

PTO VALVE

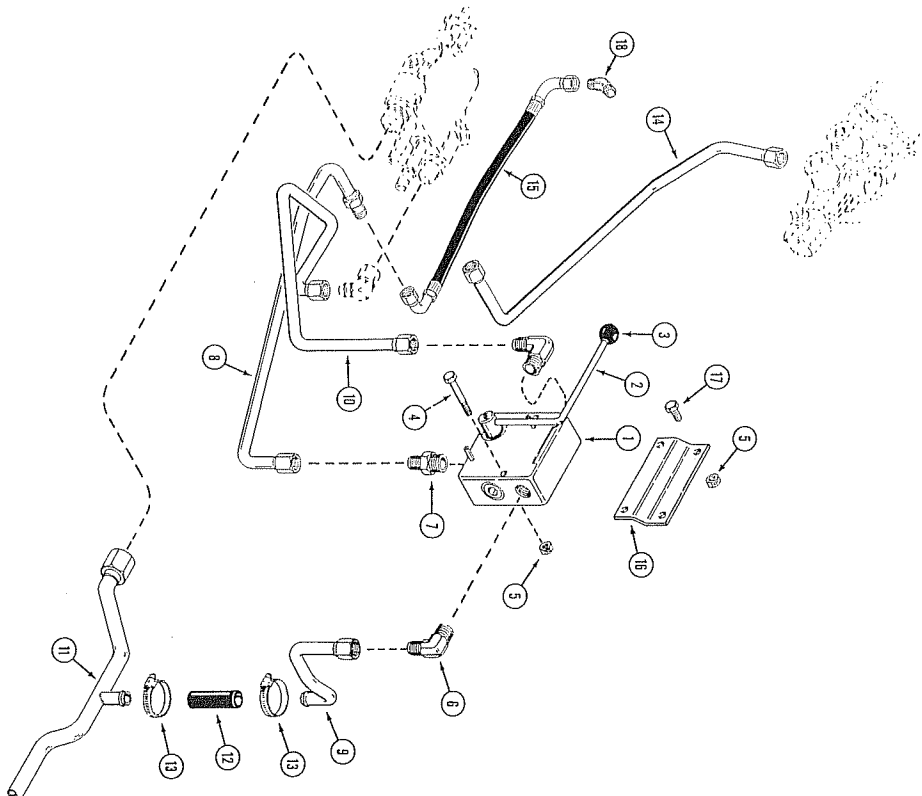
1	C 30046	VALVE - hydraulic	1
2	C 26706	WIPER - spool	1
3	C 26707	RING - quad	2
4	C 26722	SPACER - end cap	1
5	195- 526	WASHER	2
6	C 26724	SPRING - centering	1
7	C 26725	BOLT - shoulder	1
8	C 26726	BONNET - end cap	1
9	165- 143	SCREW - 1/4" - 20 x 3/4" socket head (use 165-143)	2
10	C 26727	SCREW - 1/4" - 20 x 5/8" socket head (use 165-143)	2
11	C 26708	RETAINER - seal	1
12	C 26709	POPPET - relief	1
13	C 26710	SPRING - relief	1
14	C 26711	WASHER - aluminum, seal	1
15	C 26712	SCREW - adjustment, relief	1
16	C 26712	NUT - cap, relief	1
17	113- 5	BOLT - 1/4" x 1-1/2"	3
18	129- 101	NUT - 1/4"	3
19	192- 19	LOCKWASHER - 1/4"	3

M19*, N19** FLOW CONTROL VALVE KIT

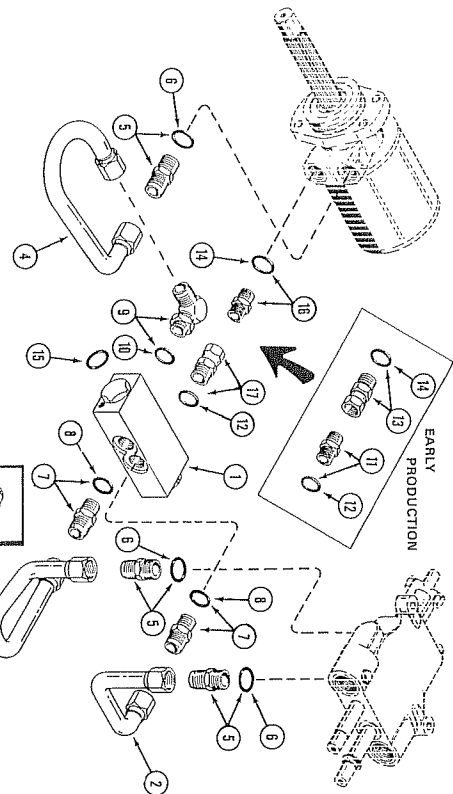
REF.	PART NO.	DESCRIPTION	REQ'D
1	C 23618	VALVE - flow control	1
	C 28217	"O" RING - shaft 3/4" x 15/16"	2
	C 28710	RING - retaining - shaft .867" I.D.	2
2	C 18720	LEVER - valve	1
3	C 28251	KNOB - lever	1
4	113- 12	BOLT - 1/4" - 20 x 2-1/2"	2
5	131- 1180	NUT - lock 1/4" N.C. hex.	4
6	218- 485	FITTING - elbow 90°	1
7	218- 445	FITTING - straight 1/2" NPT x 5/8" tube	1
8	C 25390	TUBE - flow control valve to tube (M19) (shown)	1
9	C 33008	TUBE - flow valve to PTO, front half (N19)	1
10	C 23407	TUBE - bypass to return line	1
10	C 23600	TUBE - valve to tractor valve (M19)	1
10	C 33007	TUBE - flow valve to tractor valve (N19)	1
11	C 26181	TUBE - heat exchanger	1
12	C 36849	HOSE - return	1
13	214- 254	CLAMP - hose	2
14	C 25392	TUBE - PTO valve to tube 444 (M19) (shown)	1
14	C 23879	TUBE - PTO valve to tube 220, 222, 224 (M19) (shown)	1
15	C 33010	HOSE - flow valve to PTO, rear 220, 222, 224 (N19)	1
15	C 33011	HOSE - flow valve to PTO, rear 444 (N19)	1
16	C 25391	BRACKET - mounting	1
17	113- 2	BOLT - 1/4" - 20 x 5/8" N.C. hex	2
18	218- 545	FITTING - 45° elbow 5/8" tube x 3/4" NPTF (replace outlet in PTO)	1
	C 18719	DECAL - valve, "slow - fast" (English)	1
	218- 5229	FITTING - 90° swivel 5/16" x 1/2" - 20 (N19) for hose clearance at tee fittings	2

*use before S/N:-
**use S/N and after:

220 - 1409030
222 - 1406967
224 - 14070796
444 - 14094620

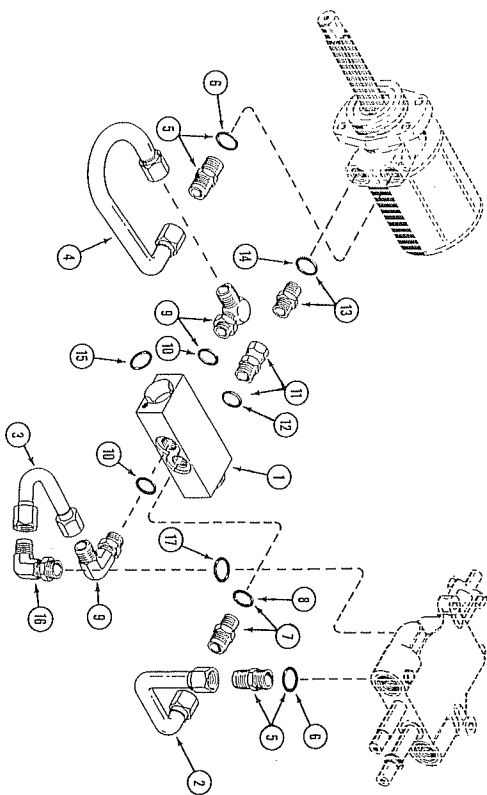


L7 HOLDING VALVE (220, 222 AND 224)
M9 HOLDING VALVE (444)

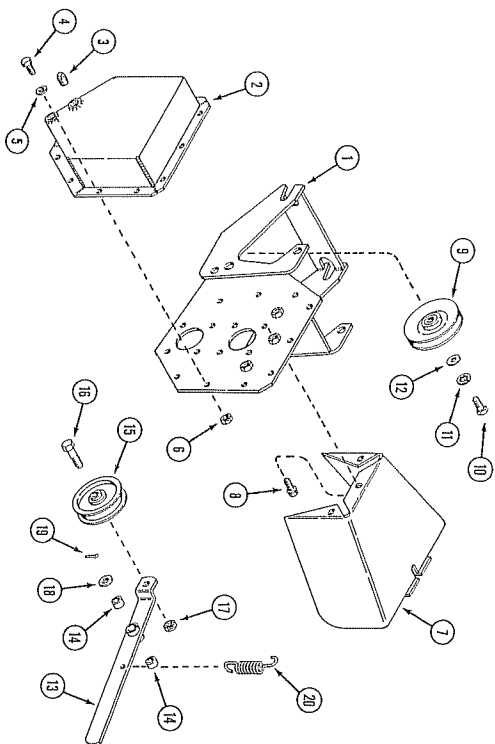


REF.	PART NO.	DESCRIPTION	RECD
1	24995	VALVE - holding (includes "O" ring)	1
2	24990	TUBE - valve to valve (L-7)	1
2	25341	TUBE - valve to valve (M9)	1
3	25341	TUBE - valve to valve (M9) (use C27806, 218-5107, 218-5117)	1
3	NSS	TUBE - valve to valve (L-7)	1
3	24991	TUBE - valve to valve (L-7)	1
4	24994	TUBE - valve to motor	3
5	5062	CONNECTOR - straight, male	1
6	5007	"O" RING	1
7	5066	CONNECTOR - straight, male	2
8	5006	"O" RING	1
9	5117	ELBOW - adjustable	1
10	5006	"O" RING	1
11	NSS	CONNECTOR - straight, male (use 218-5406 & 218-5254)	1
12	5006	"O" RING	1
13	5251	CONNECTOR - straight, male/female swivel	1
14	5007	"O" RING	1
15	29487	"O" RING - end caps	2
16	5406	CONNECTOR - straight, male	1
17	5254	CONNECTOR - straight, male/female swivel	1

M9 HOLDING VALVE (444)



REF.	PART NO.	DESCRIPTION	RECD
1	24995	VALVE - holding (includes item 15)	1
2	25341	TUBE - valve to valve	1
3	27806	TUBE - valve to valve	1
4	24994	TUBE - valve to motor	1
5	218-5062	CONNECTOR - straight, male	2
6	218-5007	"O" RING	1
7	218-5066	CONNECTOR - straight, male	1
8	218-5117	"O" RING	1
9	218-5006	ELBOW - adjustable	2
10	218-5117	"O" RING	1
11	218-5006	CONNECTOR - straight, male/female, swivel	1
12	218-5254	"O" RING	1
13	218-5406	CONNECTOR - straight, male	1
14	218-5007	"O" RING	1
15	28487	"O" RING - end caps	2
16	218-5107	ELBOW - adjustable	1
17	218-5007	"O" RING	1

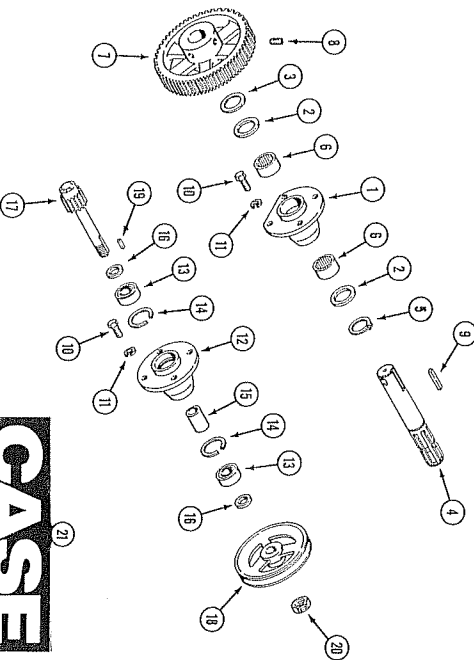


REF.	PART NO.	DESCRIPTION	REQ'D
1	25600	FRAME - mounting	1
2	25815	COVER - gear	1
3	221-4	PLUG - 1/2"	1
4	221-3	PLUG - 3/8"	1
5	113-3	BOLT - 1/4" - 20 x 3/4" hex	2
6	521	WASHER - 5/16"	9
7	131-180	NUT - 1/4" - 20 hex	9
8	25817	SHIELD - PTO	1
9	121-106	BOLT - 5/16" - 18 x 1/2", special	3
10	25370	PULLEY - "V" groove	1
11	113-206	BOLT - 3/8" - 16 x 3/4"	1
12	193-68	LOCK WASHER - special	1
13	196-103	WASHER - 3/8"	1
14	25822	ARM - idler	1
15	28308	BUSHING - sleeve	2
16	26090	PULLEY - flat idler	1
17	412	BOLT - 1/2" - 13 x 1-3/4" hex	1
18	131-165	NUT - 1/2" lock hex	1
19	541	WASHER - 5/8"	1
20	132-318	PIN - cotter 5/32" x 1"	1
	16670	SPRING - tension	1

L29 PTO MOUNTING FRAME, SHIELD, IDLERS AND GEAR COVER

L29 SPINDLES, DECALS AND BELT

REF.	PART NO.	DESCRIPTION	REQ'D
1	25806	HOUSING - PTO shaft	1
2	25807	WASHER - thrust	2
3	2131	WASHER - spacer	1
4	25808	SHAFT - spline	1
5	28258	RING - retainer	1
6	25828	BEARING - roller	2
7	25814	GEAR - driven	1
8	68	SET SCREW - 3/8"	2
9	28260	KEY - 5/16" x 2"	1
10	206	BOLT - 3/8" - 16 x 3/4" hex	8
11	113-192	LOCK WASHER - 3/8"	1
12	21	HOUSING - spindle	1
13	17666	BEARING	2
14	28971	RING - retaining	2
15	16516	SPACER - bearing	1
16	10810	WASHER - spacer	2
17	25841	PULLEY - input	1
18	25810	SPINDLE - input	1
19	25813	KEY - 3/16" square x 7/8"	1
20	28289	NUT - 3/4" - 16 lock hex	1
21	1331	DECAL - "Case"	1
22	321-28354	DECAL - "Warning"	1
23	17462	DECAL - drive belt	1
	23539	BELT - drive (444)	1
	23538	BELT - drive (220, 222, 224)	1



21
CASE

22
A WARNING
ROTATING MACHINE PARTS
SHOULD BE KEPT AWAY FROM
CHILDREN TO PREVENT
EXTREMITY AND INJURY.

23
DRIVE BELT INSTALLATION
ATTACHMENT
L29 PTO
DRIVE BELT
INSTALLATION
ATTACHMENT

NUMERICAL INDEX

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NUMERICAL INDEX

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