

OPERATION AND PARTS MANUAL



***WHITEMAN* SERIES**

MODEL HHN31VTCSL5

RIDE-ON POWER TROWEL

(B & S VANGUARD DM950 GASOLINE ENGINE)

Revision #9 (01/22/20)

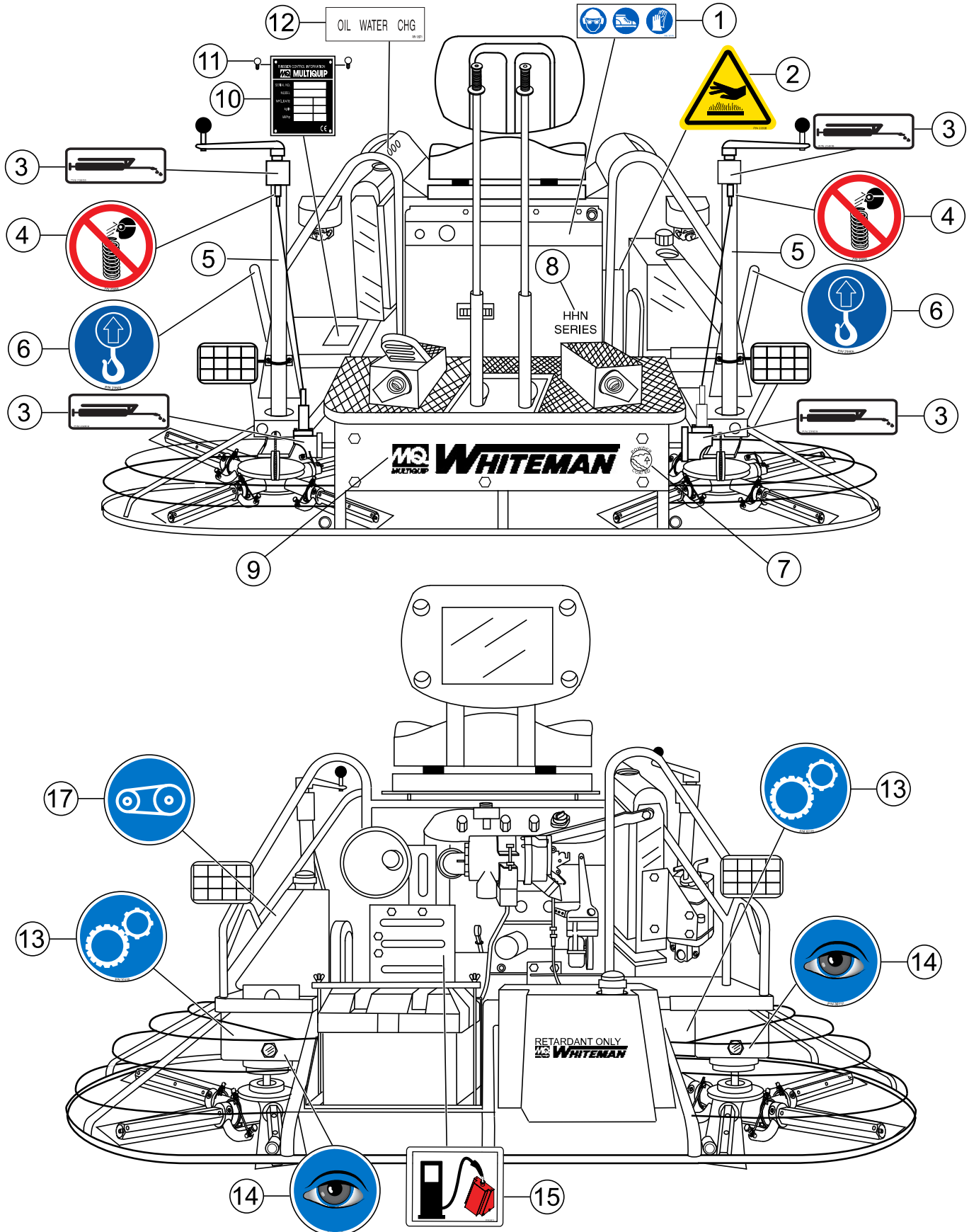
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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

PN: 20382

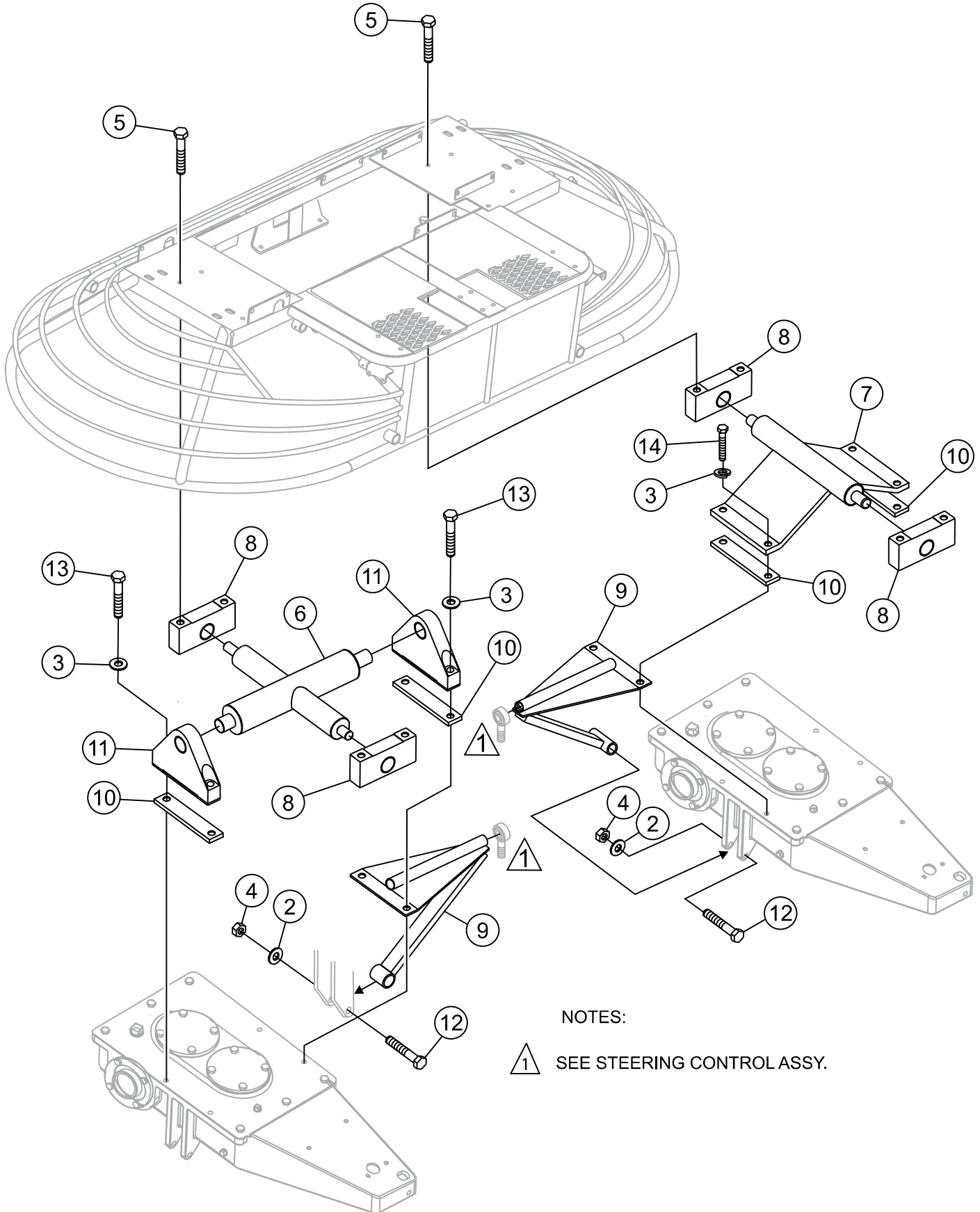
NAMEPLATE AND DECALS



NAMEPLATE AND DECALS

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	36099	DECAL, ISO, PROTECTIVE CLOTHING	1	
2	23808	DECAL ISO, HOT SURFACE HAZARD	1	
3	23809	DECAL ISO, LUBRICATION POINT	4	
4	23804	DECAL ISO, DO NOT DISASSEMBLE, CYLINDER	2	
5	1499	DECAL: MQ WHITEMAN (RED/TOWER)	2	
6	23805	DECAL ISO, LIFT LOCATION 1.00" DIA	2	
7	13118	DECAL: POWDER COATED	1	
8	20198	DECAL: HHN SERIES	1	
9	10818	DECAL: MQ WHITEMAN (WHITE/PANEL)	1	
10	13800	DECAL: NAME PLATE.....	1.....	CONTACT MQ
		.....		SERVICE DEPT W/
		.....		MODEL & S/N
11	4014	SCREW, 2-3/16" P-K TYPE U-DRIVE	4	
12	12571	DECAL: OPERATING LIGHTS	1	
13	30118	DECAL, ISO, GEAR DRIVE 2" DIA	2	
14	30117	DECAL, ISO, EYE INSPECTION 1" DIA	2	
16	23812	DECAL ISO, FUEL GASOLINE 3.0" X 2.45"	1	
17	32553	DECAL: BELT DRIVE	1	

PIVOT/GEARBOX (RIGHT/LEFT SIDE) ASSY.



NOTES:

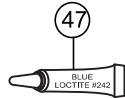
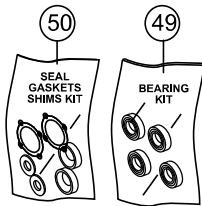


SEE STEERING CONTROL ASSY.

PIVOT/GEARBOX (RIGHT/LEFT SIDE) ASSY.

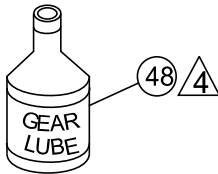
<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	0447	WASHER, FLAT 1/2" SAE	2	
3	21707	WASHER, FLAT 3/8" SAE	8	
4	10176	NUT, NYLOC 1/2-13	2	
5	22106	SCREW, HHFS 3/8-16 X 1-1/4" ZINC	8	
6	12716	TRUNNION	1	
7	12719	PIVOT, GEAR BOX	1	
8	12725	BLOCK, ROCKER	4	
9	12856	BRACKET, DIRECTION CONTROL	2	
10	12859	PLATE G.B. SPACER	4	
11	12713	ROCKER BLOCK	2	
12	2549	SCREW, HHC 1/2-13 X 3"	2	
13	32272	SCREW, HHC 3/8-16 X 2-1/4"	4	
14	32271	SCREW, HHC 3/8-16 X 1-3/4"	4	

GEARBOX ASSY. (SINGLE SIGHT GLASS)

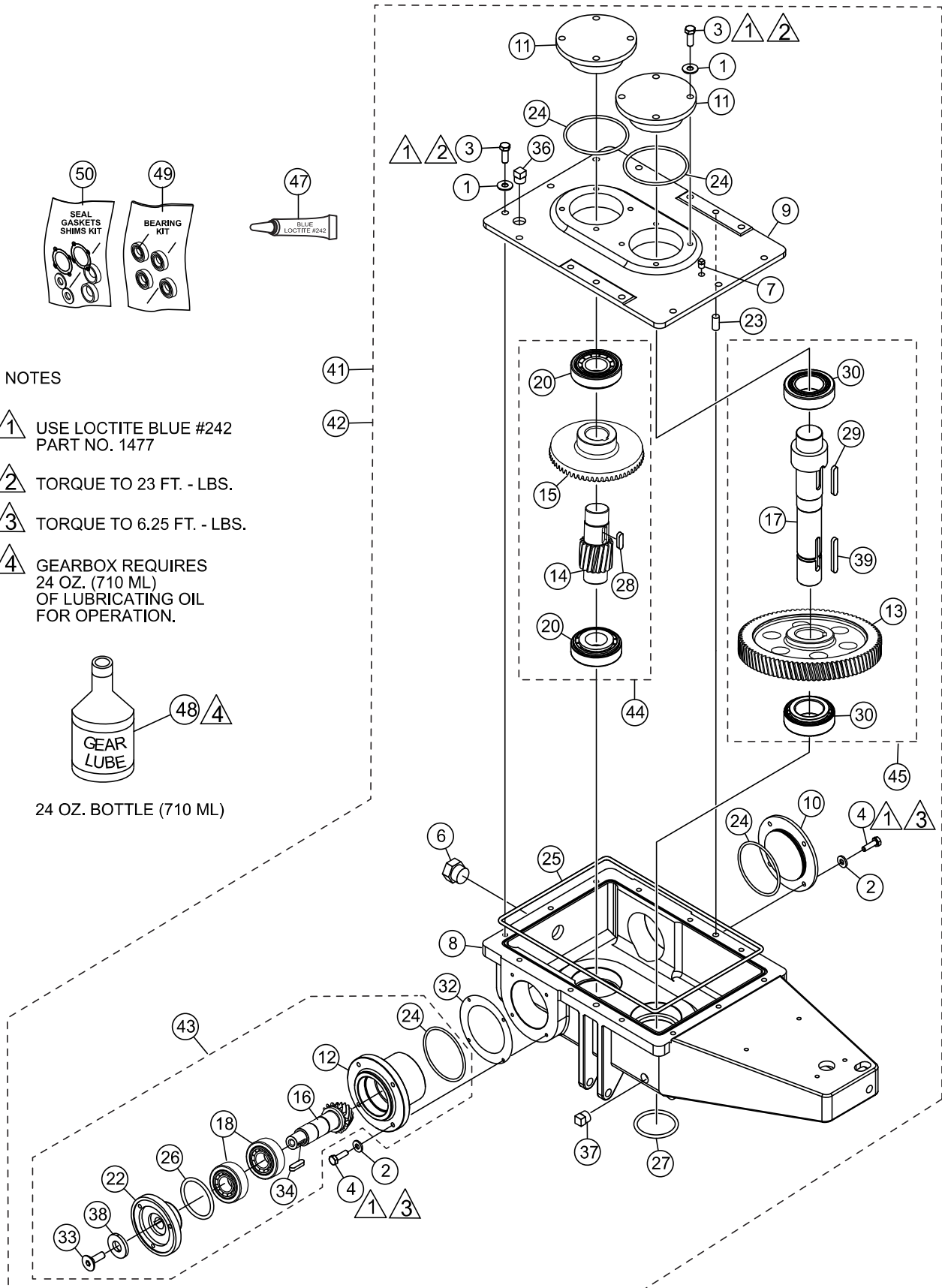


NOTES

- 1 USE LOCTITE BLUE #242
PART NO. 1477
- 2 TORQUE TO 23 FT. - LBS.
- 3 TORQUE TO 6.25 FT. - LBS.
- 4 GEARBOX REQUIRES
24 OZ. (710 ML)
OF LUBRICATING OIL
FOR OPERATION.



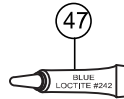
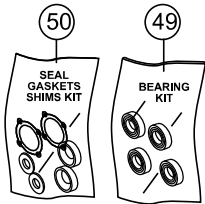
24 OZ. BOTTLE (710 ML)



GEARBOX ASSY. (SINGLE SIGHT GLASS)

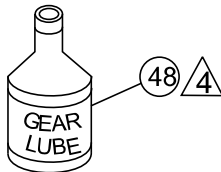
NO.	PART NO.	PART NAME	QTY.	REMARKS
1\$	10136	WASHER, FLAT SAE 3/8"	16	
2\$	0948	WASHER, FLAT SAE 1/4"	8	
3\$	0205	SCREW, HHC 3/8-16 X 1"	16	
4\$	2295	SCREW, HHC 1/4-20 X 7/8"	8	
6\$	11584	SIGHT GLASS	1	
7\$	11682	FITTING, PLUG, 1/8 MP SQ HEAD	1	
8\$	21812	GEARBOX HOUSING	1	
9\$	21811	COVER, GEAR BOX	1	
10\$	21813	CAP, HELICAL GEARBOX INPUT	1	
11\$	21810	CAP, HELICAL GEARBOX IDLER	2	
12\$%		HUB, HELICAL INPUT SHAFT	1	MUST PURCHASE KIT
13\$+		GEAR, 85T HELICAL	1	MUST PURCHASE KIT
14\$@		GEAR, PINION 17T, HELICAL	1	MUST PURCHASE KIT
15\$@		GEAR, SPIRAL BEVEL, 60T 6.00PD	1	MUST PURCHASE KIT
16\$%		PINION, 15T SPIRAL BEVEL	1	MUST PURCHASE KIT
17\$+	21804	SHAFT, OUTPUT	1	MUST PURCHASE KIT
18\$%#	21803	BEARING, TAPERED ROLLER SET	2	
20\$@#	21802	BEARING, TAPERED ROLLER SET	2	
22\$%		COUPLER, GEARBOX	1	MUST PURCHASE KIT
23\$	12697	PIN, DOWEL 0.375/.3752 X 3/4	2	
24\$%>	12698	O RING	4	
25\$>	12700	SEAL, CASE O-RING HHN 0.103 X 46.38	1	
26\$%>	12701	SEAL	1	
27\$>	12702	SEAL	1	
28\$@	12735	KEY, 3/8" X 3/4"	1	
29\$+	12736	KEY, HARDENED 3/8" X 1-1/2"	1	
30\$+#	21801	BEARING, CONE TAPERED ROLLER SET	2	
32\$	21800	SHIM, INPUT. 0.002 THICK	3	
33\$%	1313	SCREW, FHSC 3/8 - 24 X 3/4" PLAIN	1	
34\$%	26034	KEY, 3/16" X 17/32"	1	
36\$	911064	FITTING, PLUG 1/2 MP SQ HEAD	1	
37\$	911329	FITTING, PLUG 3/8 MP MAGNETIC	2	
38\$%	9120	RETAINER, DRIVEN PULLEY	1	
39\$+	12687	KEY, 3/8" SQ X 2"	1	
41	32214	GEARBOX ASSY., RIGHT	1	INCLUDES ITEMS W/\$
42	32213	GEARBOX ASSY., LEFT	1	INCLUDES ITEMS W/\$
43\$	21853854INPUT	KIT, INPUT PINION/HUB/COUPLER	1	INCLUDES ITEMS W/%
44\$	21853854INTER	KIT, INTER PINION/GEAR	1	INCLUDES ITEMS W/@
45\$	21853854OUTER	KIT, OUTPUT SHAFT/GEAR	1	INCLUDES ITEMS W/+
46	20445	OIL, HELICAL SERVICE 24 OZ.	6	
47	60097	LOCTITE BLUE #246	1	
48	20445	GEARLUBE, ISO 220 AGMA GR 5EP 24 OZ.	6	
49	32077	KIT, SERVICE, BEARING REPLACEMENT	1	INCLUDES ITEMS W/#
50	20932	KIT, SEAL GEARBOX	1	INCLUDES ITEMS W/>

GEARBOX ASSY. (DUAL SIGHT GLASS)

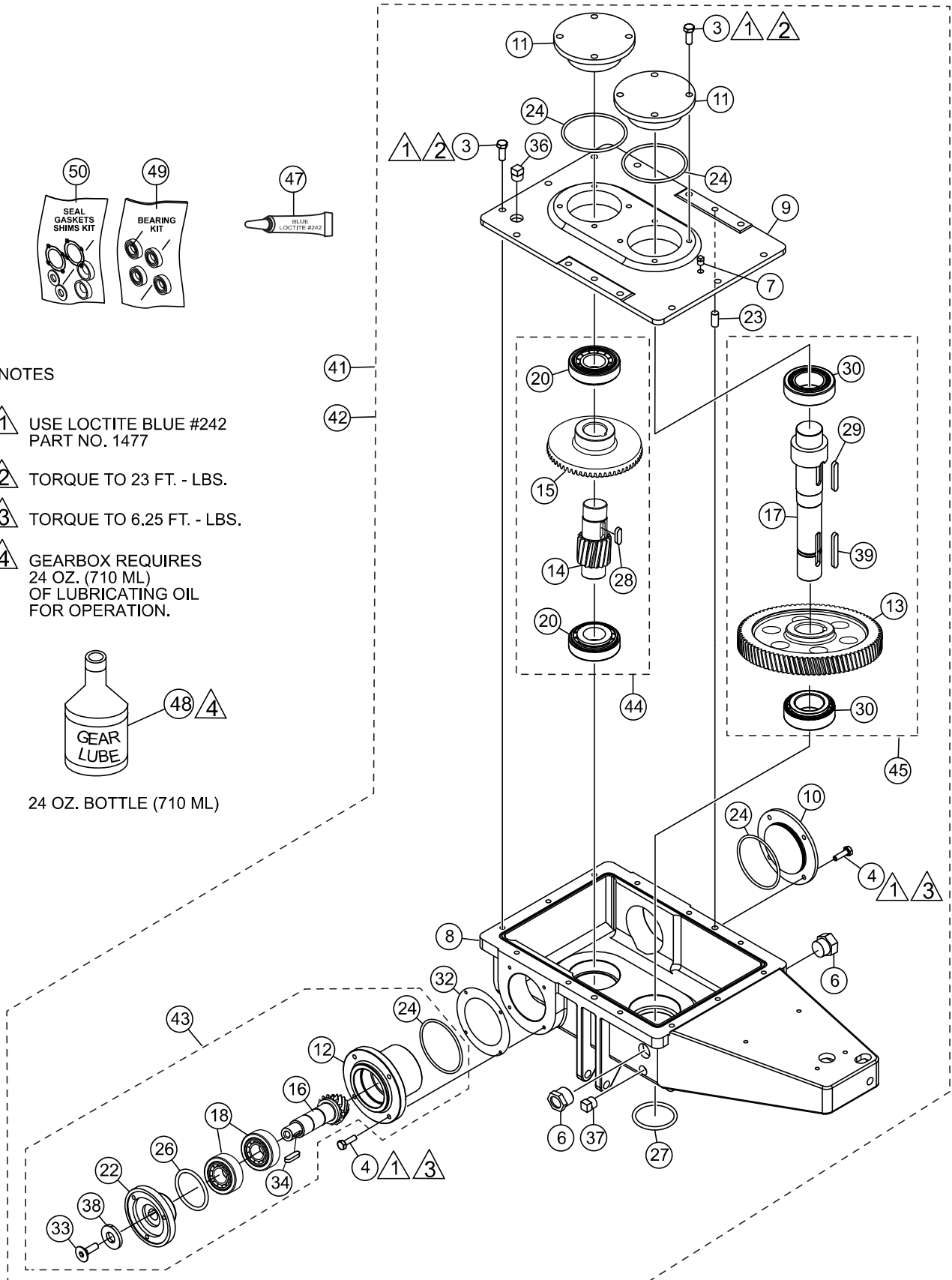


NOTES

- ① USE LOCTITE BLUE #242
PART NO. 1477
- ② TORQUE TO 23 FT. - LBS.
- ③ TORQUE TO 6.25 FT. - LBS.
- ④ GEARBOX REQUIRES
24 OZ. (710 ML)
OF LUBRICATING OIL
FOR OPERATION.



24 OZ. BOTTLE (710 ML)

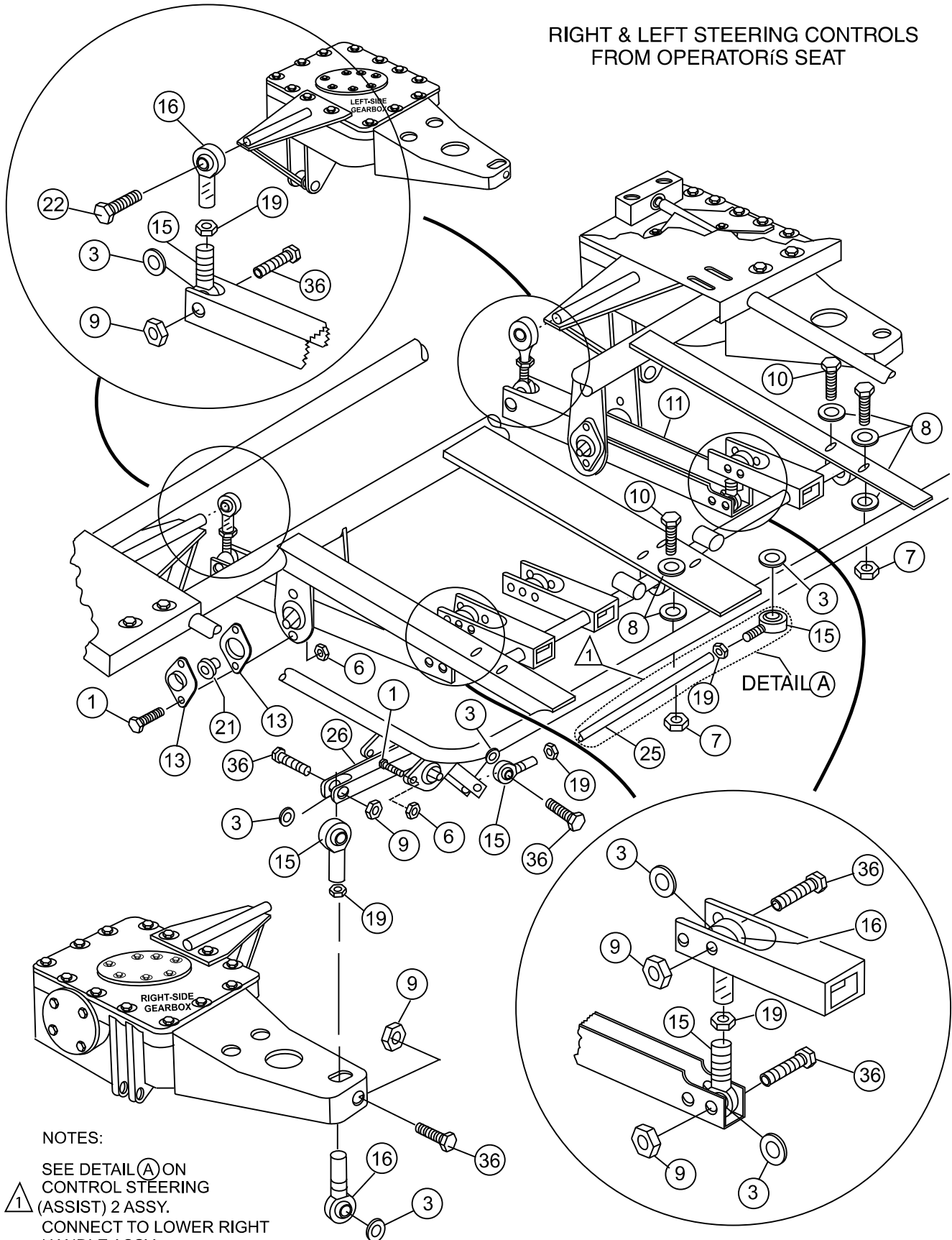


GEARBOX ASSY. (DUAL SIGHT GLASS)

NO.	PART NO.	PART NAME	QTY.	REMARKS
3\$	32379	SCREW, HFS 3/8-16 X 1	20	
4\$	46031	SCREW, HFS 1/4-20 X 1	8	
6\$	21033	SIGHT GLASS	2	
7\$	11682	FITTING, PLUG, 1/8 MP SQ HEAD	1	
8\$	21812	GEARBOX HOUSING	1	
9\$	21811	COVER, GEAR BOX	1	
10\$	32537	END CAP, BLIND, INPUT	1	
11\$	32533	END CAP, UPPER SHAFT BEARING	2	
12\$%		HUB, HELICAL INPUT SHAFT	1	MUST PURCHASE KIT
13\$+		GEAR, 85T HELICAL	1	MUST PURCHASE KIT
14\$@		GEAR, PINION 17T, HELICAL	1	MUST PURCHASE KIT
15\$@		GEAR, SPIRAL BEVEL, 60T 6.00PD	1	MUST PURCHASE KIT
16\$%		PINION, 15T SPIRAL BEVEL	1	MUST PURCHASE KIT
17\$+		SHAFT, OUTPUT	1	MUST PURCHASE KIT
18\$%	21803	BEARING, TAPERED ROLLER SET	2	
20\$@	21802	BEARING, TAPERED ROLLER SET	2	
22\$%		COUPLER, GEARBOX	1	MUST PURCHASE KIT
23\$	926942	PIN, DOWEL 0.375 DIA. X 3/4	2	
24\$%	12698	O RING	2	
26\$%	12701	SEAL	1	
27\$	12702	SEAL	1	
28\$@	12735	KEY, 3/8 X 3/4	1	
29\$+	12736	KEY, HARDENED 3/8 X 1-1/2	1	
30\$+	21801	BEARING, CONE TAPERED ROLLER SET	2	
32\$	21800	SHIM, INPUT. 0.002 THICK	3	
33\$%	30318	SCREW, FHSC 3/8 - 24 X 1	1	
34\$%	26034	KEY, 3/16 X 17/32	1	
36\$	911064	FITTING, PLUG 1/2 MP SQ HEAD	1	
37\$	911329	FITTING, PLUG 3/8 MP MAGNETIC	2	
38\$%	9120	RETAINER, DRIVEN PULLEY	1	
39\$+	12687	KEY, 3/8 SQ X 2	1	
41	32958-SK	GEARBOX ASSY., RIGHT	1	INCLUDES ITEMS W/\$
42	32957-SK	GEARBOX ASSY., LEFT	1	INCLUDES ITEMS W/\$
43\$	32536	INPUT HUB ASSY.	1	INCLUDES ITEMS W/%
44\$	32653	INTERMEDIATE SHAFT ASSY.	1	INCLUDES ITEMS W/@
45\$	32652	OUTPUT SHAFT ASSY.	1	INCLUDES ITEMS W/+
47	1477	LOCTITE BLUE #242	1	
48	60078	OIL, GEAR LUBE ISO GRADE 220	1	
49	32077	KIT, SERVICE, BEARING REPLACEMENT	1	INCLUDES ITEMS W/#
50	20932	KIT, SEAL GEARBOX	1	INCLUDES ITEMS W/>

CONTROL STEERING (ASSIST) 1 ASSY.

RIGHT & LEFT STEERING CONTROLS
FROM OPERATOR'S SEAT



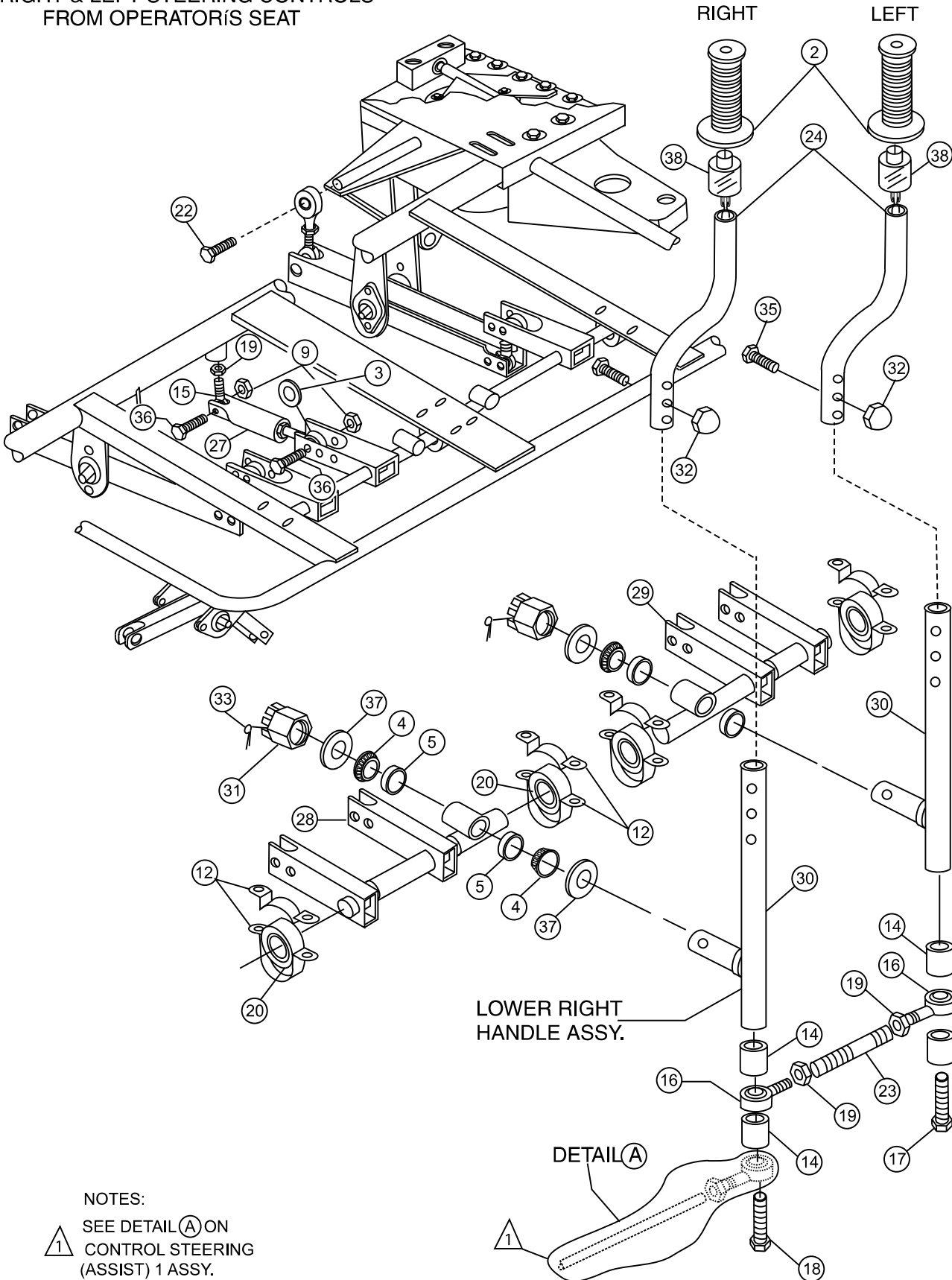
NOTES:

SEE DETAIL (A) ON
CONTROL STEERING
(ASSIST) 2 ASSY.
CONNECT TO LOWER RIGHT
HANDLE ASSY.

CONTROL STEERING (ASSIST) 1 ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0131 A	SCREW, HHC 1/4-20 X 3/4	12	
3	0447	WASHER, FLAT, 1/2 SAE	12	
6	10024	NUT, NYLOC 1/4-20	16	
7	10133	NUT, NYLOC 3/8-16	8	
8	10136	WASHER, FLAT, 3/8 SAE	16	
9	10176	NUT, NYLOC 1/2-13	13	
10	1023	SCREW, HHC 3/8-16 X 1 1/4	8	
11	11127	LEVER, STEERING CONTROL W/A	2	
13	11139	BEARING, FLANGE HOUSING 40M-2	6	
14	11141	SPACER, ROD END	5	
15	11142	ROD END, 1/2-20 MALE RH	9	
16	11143	ROD END, 1/2-20 FEMALE RH	7	
19	11146	NUT, HEX JAM 1/2-20	11	
21	11150	BEARING, SB-201-8	6	
22	22135	SCREW, HHC 1/2-20 X 1.1/2"	2	
25	11172	ROD, L/R MOTION	1	
26	12193	LEVER, L/R CONTROL W/A	1	
36	6159 A	SCREW, HHC 1/2-13 X 2	13	

RIGHT & LEFT STEERING CONTROLS FROM OPERATOR'S SEAT



SEE DETAIL (A) ON
CONTROL STEERING
(ASSIST) 1 ASSY.

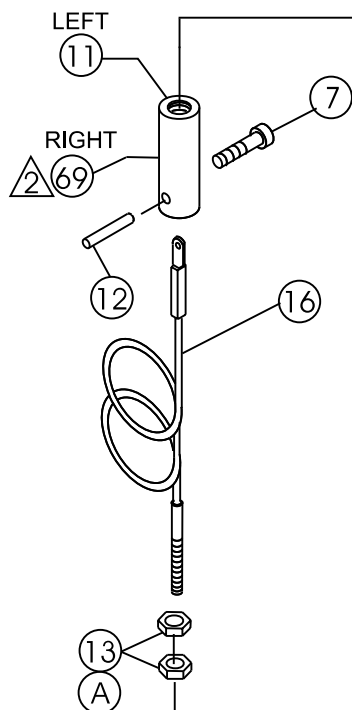
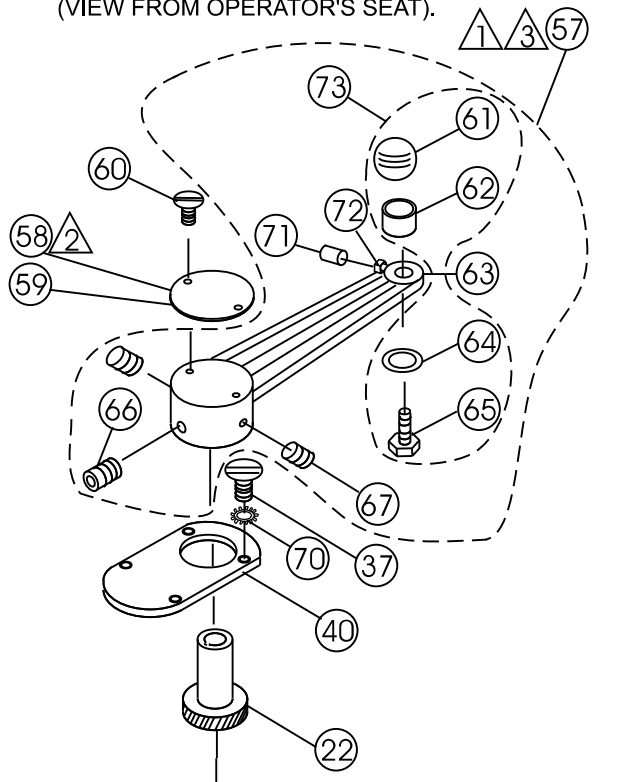
1

CONTROL STEERING (ASSIST) 2 ASSY.

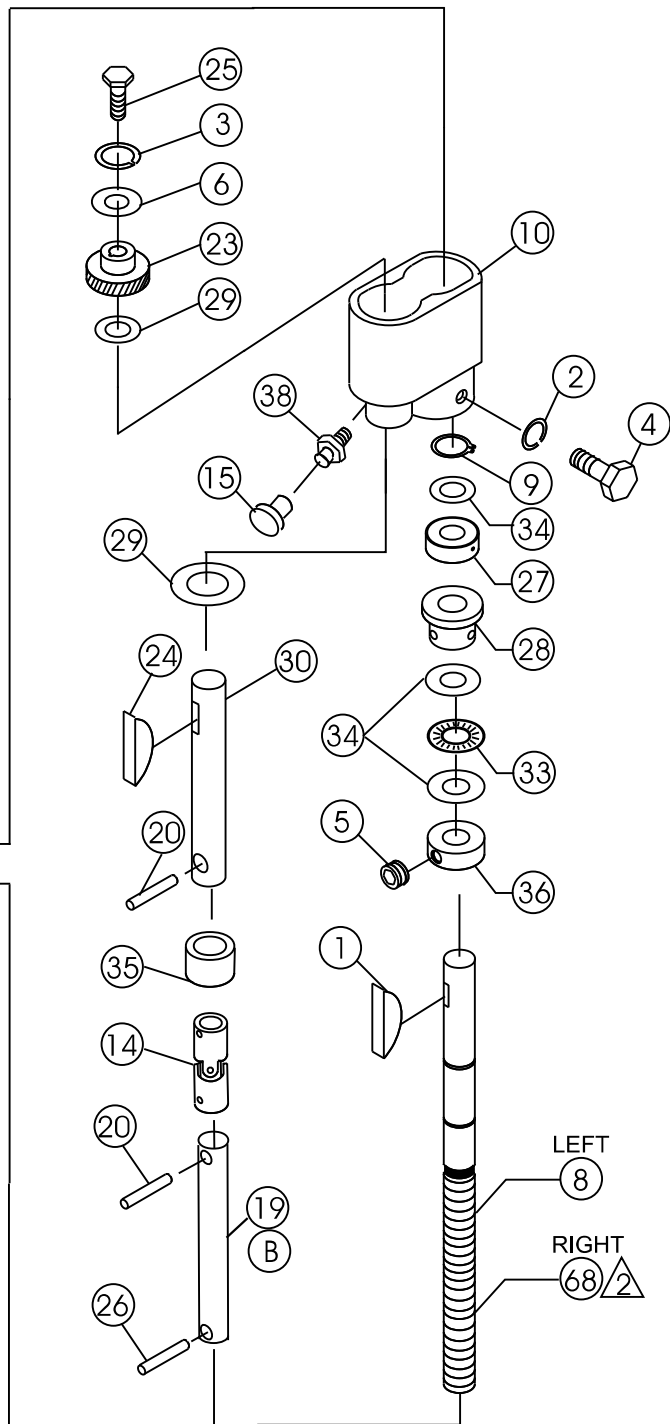
<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	2267	GRIP HANDLE, LEFT-RIGHT	2	
3	0447	WASHER, FLAT, 1/2 SAE	12	
4	0735	BEARING, CONE, TIMKEN #A6075	4	
5	0735 A	BEARING, CUP, TIMKEN #A6157	4	
8	10136	WASHER, FLAT, 3/8 SAE	16	
9	10176	NUT, NYLOC 1/2-13	13	
12	11138	BEARING, P-BLOCK HOUSING 47MPB	4	
14	11141	SPACER, ROD END	5	
15	11142	ROD END, 1/2-20 MALE RH	9	
16	11143	ROD END, 1/2-20 FEMALE RH	7	
17	11144	SCREW, SHC 1/2-20 X 2 PLTD	1	
18	11145	SCREW, SHC 1/2-20 X 3 PLTD	1	
19	11146	NUT, HEX JAM 1/2-20	11	
20	11149	BEARING, SB-204-12	4	
22	22135	SCREW, HHC 1/2-20 X 1.1/2"	2	
23	11173	THREADPIECE, 1/2-20 X 2 PLTD	1	
24	11177	HANDLE TUBE, UPPER	2	
27	12200	ASSIST ASM, STEERING SPRING	2	
28	12904	STEERING CONTROL W/A RS ASSIST	1	
29	12903	STEERING CONTROL W/A LS ASSIST	1	
30	12425	HANDLE , LOWER W/A	2	
31	12426	NUT, SLOTTED 3/4-16 PLATED	2	
32	2197	NUT, ACORN 1/4-20	2	
33	2219	PIN, COTTER 1/8 X 1 1/2	2	
35	5277	SCREW, HHC 1/4-20 X 1 1/2	2	
36	6159 A	SCREW, HHC 1/2-13 X 2	13	
37	8151	WASHER, FLAT, 3/4 SAE	4	
38	11430	SWITCH, PUSHBUTTON	1	

TWIN PITCH ASSY. 1 (LEFT/RIGHT)

LEFT SIDE TWIN PITCH TOWER
ASSEMBLY P/N 12386 ITEM 55
(VIEW FROM OPERATOR'S SEAT).



CONTINUED ON
TWIN PITCH ASSY. 2
SEE (A), ITEM 32.



CONTINUED ON
TWIN PITCH ASSY. 2
SEE (B), ITEM 31.

NOTES:
LEVER ASSEMBLY, ITEM 57
INCLUDES ITEMS WITHIN OUTLINE.
RIGHT SIDE TWIN PITCH
ASSEMBLY P/N 12385 ITEM 54
IS IDENTICAL TO LEFT SIDE
TWIN PITCH ASSEMBLY UNLESS
OTHERWISE NOTED.

△ KNOB KIT P/N 2737 (ITEM 73)
INCLUDES ITEMS 61, 62, 64 AND 65.

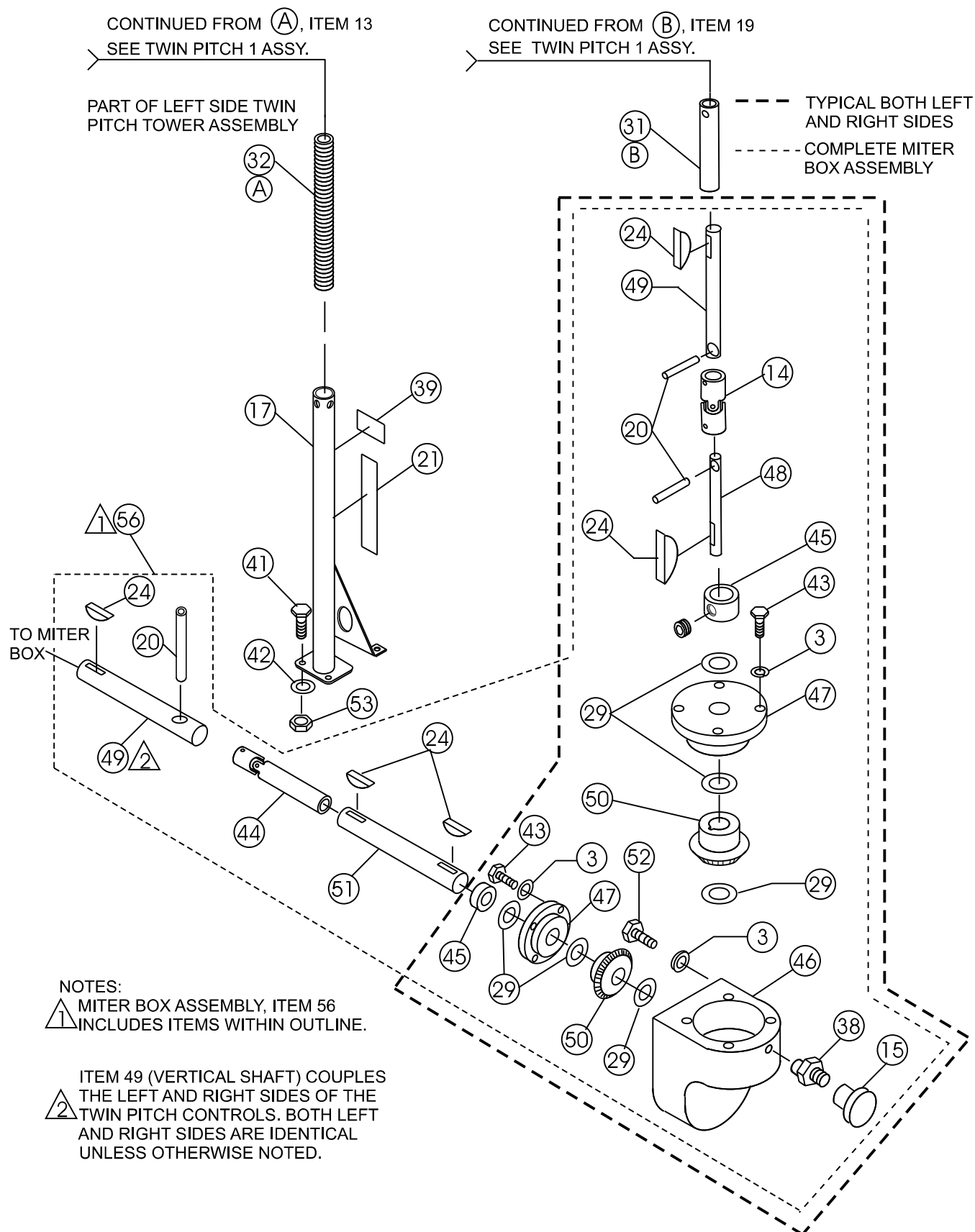
TWIN PITCH ASSY. 1 (LEFT/RIGHT)

NO.	PART NO.	PART NAME	QTY.	REMARKS
1+%	0126 B	KEY, WOODRUFF #9	1	
2+%	0161C	WASHER, LOCK 5/16 MED	1	
3@+%	0181 B	WASHER, LOCK, 1/4 MED	4	
4+%	0655	SCREW, HHC 5/16 – 18 X 3/4	1	
5+%	0685	SCREW, SHS 5/16 – 18 X 5/16	1	
6+%	0948	WASHER, FLAT, 1/4 SAE	1	
7+%	10382	BOLT, SHOULDER, 3/8 X 3/8 LONG	1	
8+	10511	SHAFT, PITCH CONTROL, LH TPC	1	LEFT SIDE ONLY
9+%	10512	RING, SNAP, TRUARC 5160 – 75	1	
10+%	10546	HOUSING, PITCH CONTROL, 1-3/4	1	
11+	10722	SLIDE BLOCK, LH PITCH CON.....	1	LEFT SIDE ONLY
12+%	10723	PIN, SPIROL 3/16 X 1 3/8 HD	1	
13+%	1116	NUT, BRASS JAM 5/16 – 18	2	
14@+%	11583	U-JOINT, PITCH CONTROL	2	
15@+%	1162 A	CAP, GREASE ZERK	2	
16+%	12460	CABLE, PITCH ASM	1	
19+%	20005	SHAFT, TWIN PITCH	1	
20@+%	11654	PIN, ROLL 1/8 X 1 PLATED	5	QTY. INCLUDES USAGE ON BOTH TWIN PITCH ASSEMBLIES, AND MITER BOX SHAFTS
22+%	1529	GEAR, MASTER, TPC	1	
23+%	1530	GEAR, SLAVE, TPC	1	
24@+%	1578	KEY, WOODRUFF, #3.....	9	QTY. INCLUDES USAGE ON BOTH TWIN PITCH ASSEMBLIES, AND MITER BOX SHAFTS
25+%	1579	SCREW, HHC 1/4 – 20 X 1/2	1	
26+%	1586	PIN, ROLL 1/8 X 3/4	1	
27+%	1604	BEARING, BALL	1	
28+%	1612	BEARING, ALUM – PITCH CONTR	1	
29@+%	1733	WASHER, 1/32 X 1/2 HARDENED	8	
30+%	2007	SHAFT	1	
33+%	2169	BEARING, THRUST, TORR #NTA 1220	1	
34+%	2170	BEARING, RACE, TORR #TRA 1220	3	
35+%	2311	SPACER, 3/4 X 1/2 X 0.8L	1	
36+%	2367	SET COLLAR.NCLUDES ITEM 5		
37+%	2620	SCREW, BHC 10 – 24 X 5/8	4	
38@+%	2621	ZERK, GREASE STR 1/4 – 28	2	
40+%	2649	COVER, PITCH CONT HOUSING	1	
57	1617	LEVER ASSY, TROWEL ADJUSTMENT.....	1	INCLUDES ITEMS W/#
58	2300	DECAL, AL PITCH, RH	1	
59	2332	DECAL, AL PITCH, LH	1	
60#	4014	SCREW, 2-3/16 P-K TYPE U DRIVE	2	
61#\$	4403	CRANK KNOB	1	
62#\$	3231	SPACER	1	
63#	1615	CRANK LEVER	1	
64#\$	1733	HARDENED WASHER	1	
65#\$	1616	SHOULDER BOLT	1	
66#	0185	SCREW, SHSS 3/8 – 16 X 3/8"	1	
67#	1528	SCREW, SHSS 1/4 – 20 X 5/16"	1	
68%	10510	SHAFT, PITCH CONTROL, RH TPC.....	1	RIGHT SIDE ONLY
69%	10721	SLIDE BLOCK, RH PITCH CONTROL.....	1	RIGHT SIDE ONLY
70	10114	WASHER, EXT. SHKP, #8	4	
71	1162A	CAP, GREASE ZERK/2	1	
72	2621	FITTING GREASE	1	
73	2737	KNOB, KIT	1	INCLUDES ITEMS W/\$

NOTICE

Indicated quantities are for one pitch tower. If ordering for two pitch towers double the quantity.

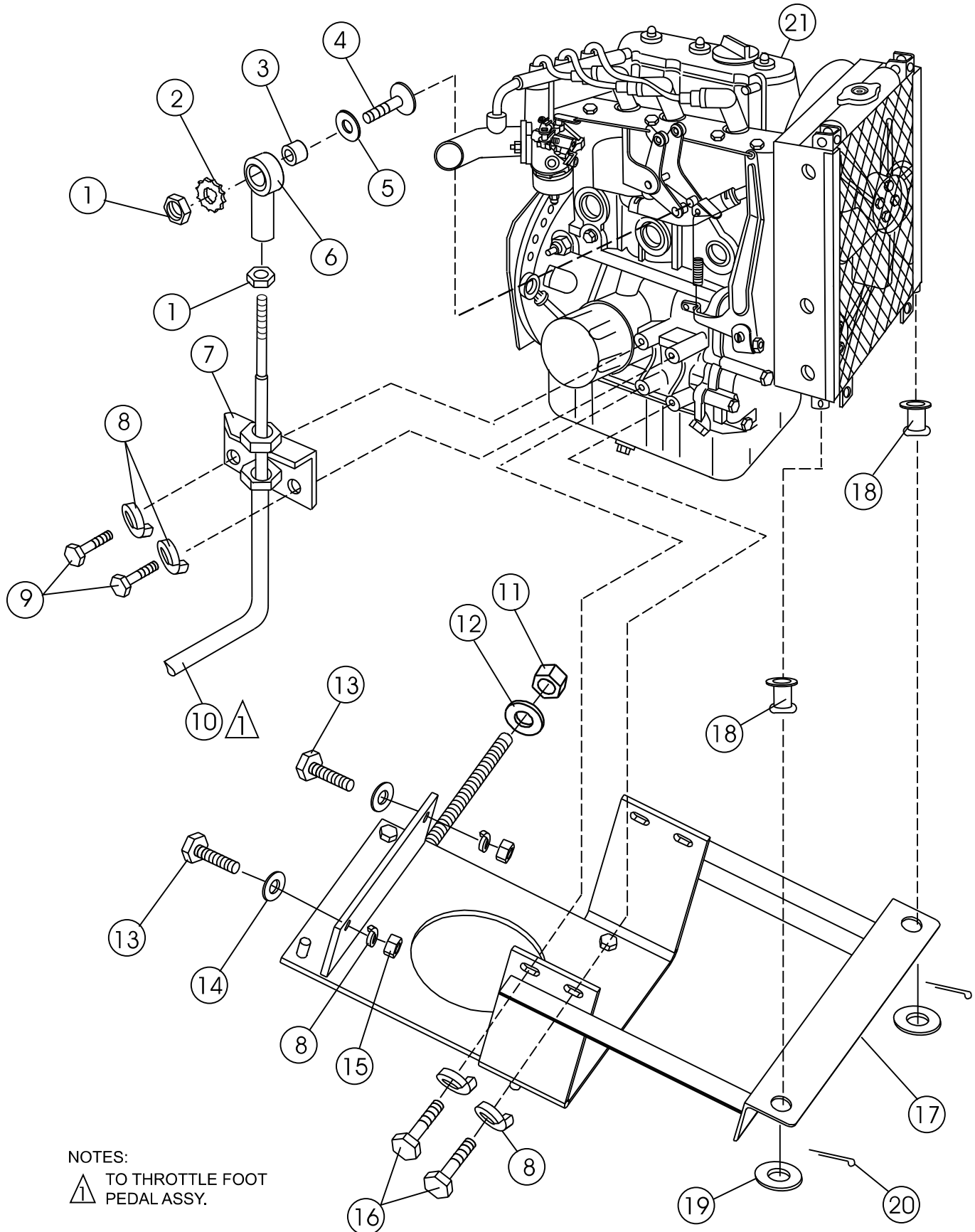
TWIN PITCH ASSY. 2 (LEFT/RIGHT)



TWIN PITCH ASSY. 2 (LEFT/RIGHT)

NO.	PART NO.	PART NAME	QTY.	REMARKS
3@+%	0181 B	WASHER, LOCK, 1/4 MED	4	
14@+%	11583	U-JOINT, PITCH CONTROL	2	
15@+%	1162 A	CAP, GREASE ZERK	2	
16+%	12460	CABLE, PITCH ASM	1	
17	10548	TUBE, PITCH CONTROL W/A	1	
20@+%	11654	PIN, ROLL 1/8 X 1 PLATED.....	5.....	QTY. INCLUDES USAGE ON BOTH
		.....		TWIN PITCH ASSEMBLIES, AND
		.....		MITER BOX SHAFTS
21	1499	DECAL, WHITEMAN	1	
22+%	1529	GEAR, MASTER, TPC	1	
23+%	1530	GEAR, SLAVE, TPC	1	
24@+%	1578	KEY, WOODRUFF, #3.....	9.....	QTY. INCLUDES USAGE ON BOTH
		.....		TWIN PITCH ASSEMBLIES, AND
		.....		MITER BOX SHAFTS
29@+%	1733	WASHER, 1/32 X 1/2 HARDENED	8	
31	2012	SLEEVE, ADJ – LONG, RIDER	1	
32	2156	SPRING, COIL	1	
38@+%	2621	ZERK, GREASE STR 1/4 – 28	2	
39	2634	DECAL, PITCH TOWER	1	
41	0202	SCREW, HHC 5/16 – 18 X 1	4	
42	0300 B	WASHER, FLAT, 5/16 SAE	4	
43@	0730	SCREW, HHC 1/4 – 20 X 1	8	
44@	11653	SLEEVE W/U JOINT	1	
45@	1577	SET COLLAR, 1/2	2	
46@	1987	MITER BOX, PITCH CONTROL	1	
47@	1988	MITER BOX, BEARING CAP RIDERS	2	
48@	2021	SHAFT, MITER VERT	1	
49@	2022	SHAFT, MITER VERTICAL.....	3.....	QTY. INCLUDES USAGE ON BOTH
		.....		TWIN PITCH ASSEMBLIES, AND
		.....		MITER BOX SHAFTS
51@	2845	SHAFT, MITER BOX HORIZ (HNN)	1	
52@	4514	SCREW, HHC 1/4 – 20 X 5/8	4	
53	5283	NUT, NYLOC 5/16 – 18	4	
56	11655	MITER BOX ASSY (HNN)	1.....	INCLUDES ITEMS W/@

ENGINE MOUNTING & THROTTLE ASSY.

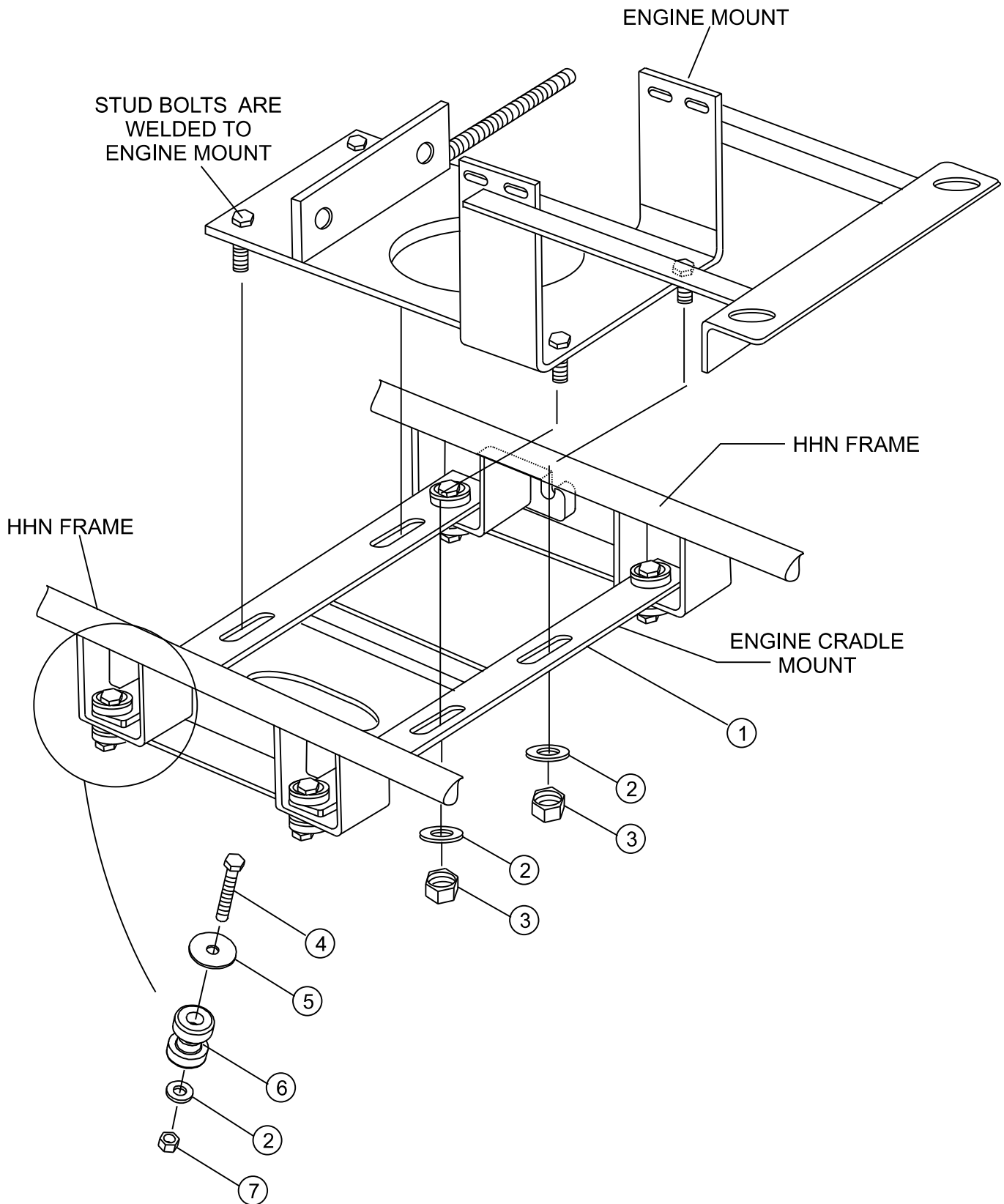


NOTES:
 1 TO THROTTLE FOOT
 PEDAL ASSY.

ENGINE MOUNTING & THROTTLE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0937	NUT, HEX 10-32	2	
2	10237	WASHER, EXT. SHKP. #10	1	
3	11710	SPACER, ENG THROTTLE	1	
4	8133	SCREW, RHM 10-32 X 3/4	1	
5	2203	WASHER, FLAT #10	1	
6	2153	ROD END, 10-32 FEMALE RH	1	
7	11771	BRACKET, ENGINE THROTTLE CABLE	1	
8	0161 C	WASHER, LOCK, 5/16 MED.	8	
9	2299	SCREW, HHC M8-1.25 X 16mm	3	
10	2124	CABLE, THROTTLE (RT)	1	
11	10087	NUT, NYLOC 1/2-20 THIN	1	
12	0447	WASHER, FLAT 1/2 SAE	1	
13	0202	SCREW, HHC 5/16-18 X 1	3	
14	0300 B	WASHER, FLAT, 5/16 SAE	2	
15	5283	NUT, NYLOC 5/16-18	3	
16	2866	SCREW, HHC M8-1.25 X 20mm	4	
17	12844	MOUNT, 31V ENGINE W/A	1	
18	19468	GROMMET, MINOR PN Z-4004	2	
19	12199	WASHER, FLAT	2	
20	0183	COTTER PIN	2	
21	11292	ENGINE, BRIGGS 31 HP DM950G	1	

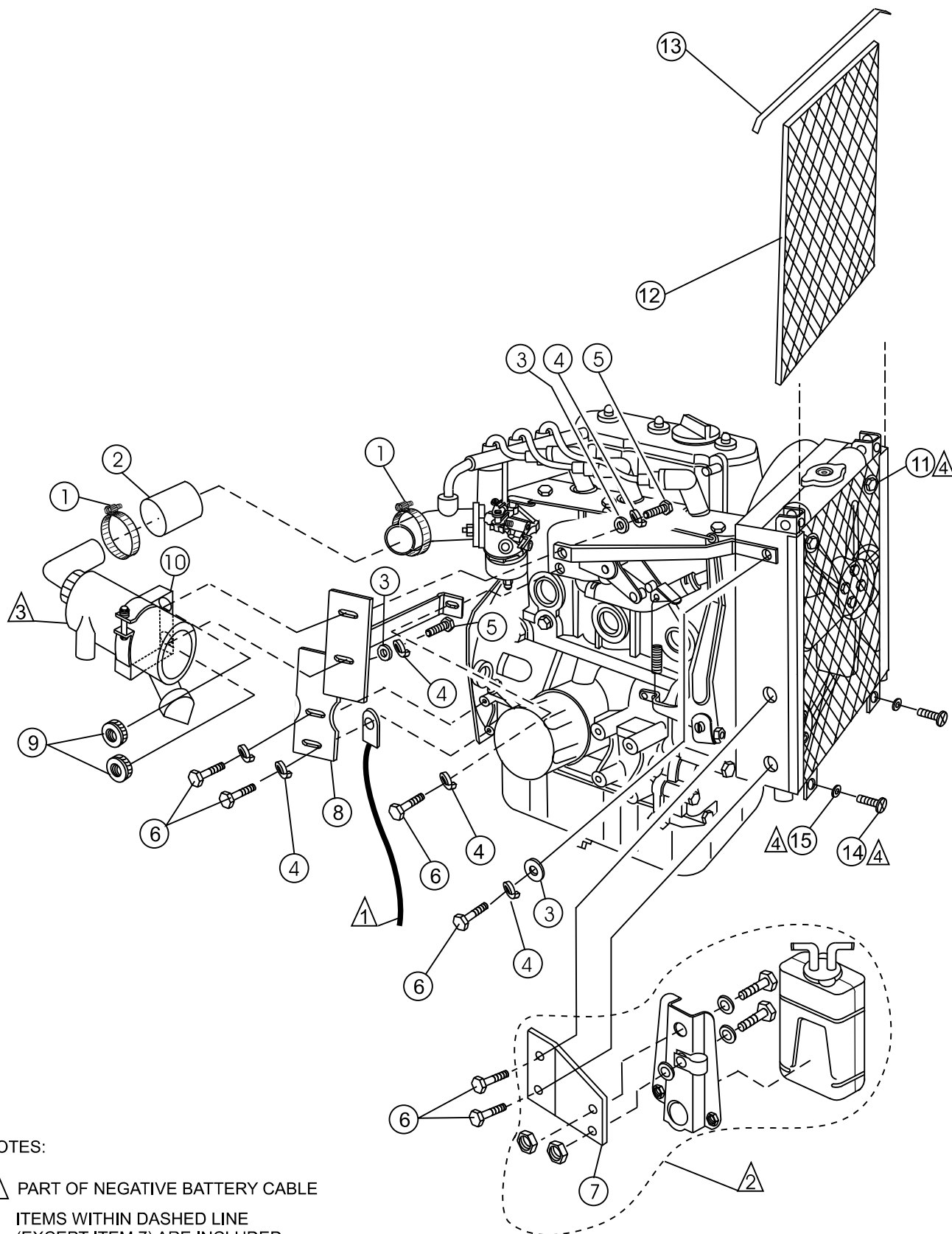
ENGINE CRADLE MOUNTING ASSY.



ENGINE CRADLE MOUNTING ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	20051	CRADLE, ENGINE W/A	1	
2	10136	WASHER, FLAT, 3/8 SAE	8	
3	1063	NUT NYLOC 3/8-24	4	
4	8156	SCREW, HHC 3/8-16 X 2-1/2	4	
5	12832	WASHER, VIBRATION SNUB	4	
6	12831	MOUNT, ENGINE VIBRATION	4	
7	10133	NUT, NYLOC 3/8-18	4	

ENGINE AIR CLEANER/RADIATOR ASSY.



NOTES:

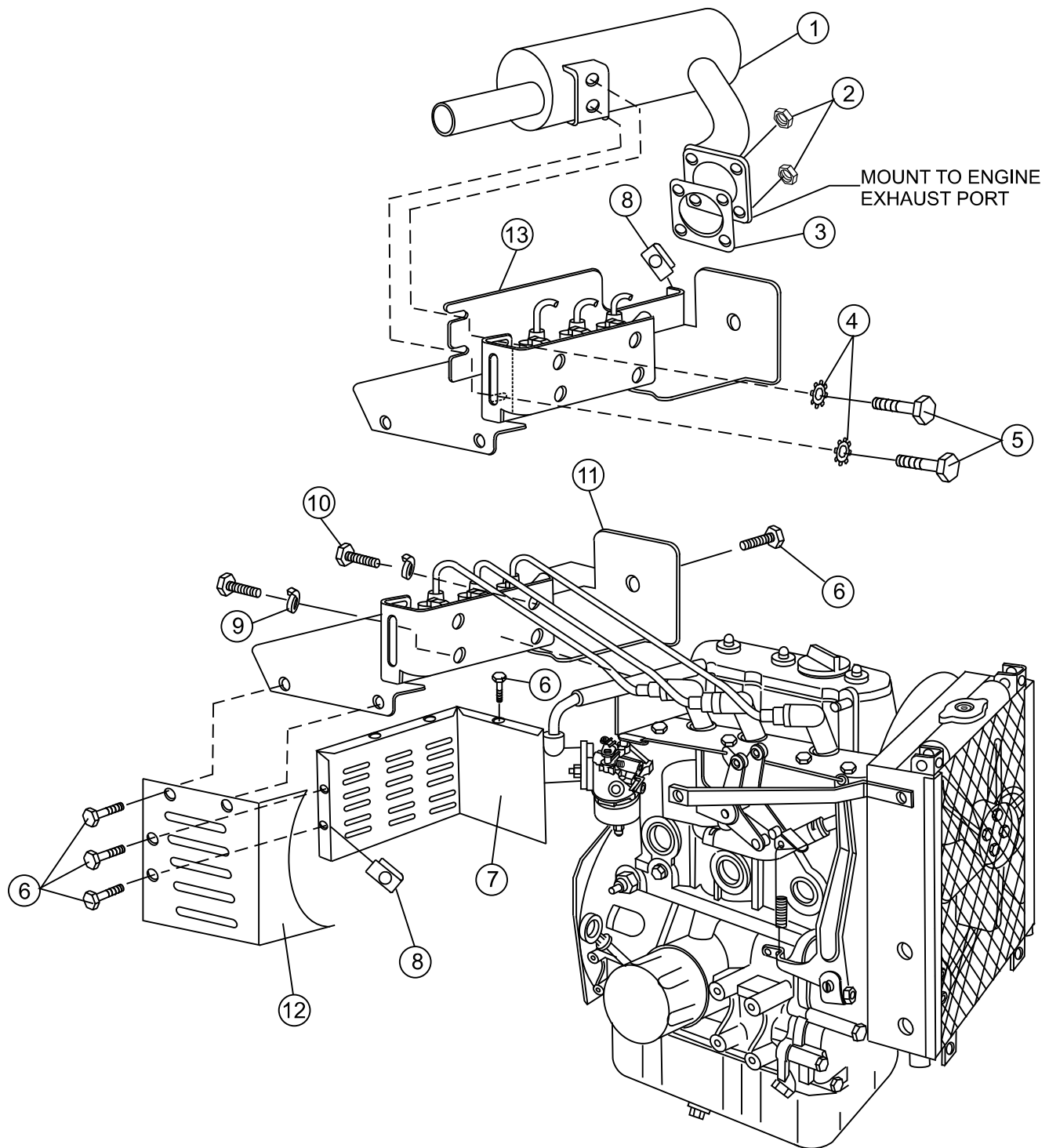
① PART OF NEGATIVE BATTERY CABLE

② ITEMS WITHIN DASHED LINE
(EXCEPT ITEM 7) ARE INCLUDED
WITH ENGINE. REFER TO ENGINE
PARTS MANUAL.

ENGINE AIR CLEANER/RADIATOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	10434	CLAMP, 2" HOSE	2	
2	12225	HOSE , AIR CLEANER MT	1	
3	0948	WASHER, FLAT, 1/4 SAE	8	
4	0161 C	WASHER, LOCK, 5/16 MED.	6	
5	0730	SCREW, HHC 1/4-20 X 1	2	
6	12464	SCREW, HHC M6-1.0 X 16mm	3	
7	11900	MOUNT, RADIATOR OVERFLOW	1	
8	12102	MOUNT, AIR CLEANER W/A	1	
9	19266	BLIND NUT	2	
10	12103	CLAMP, 31V AIR CLEANER ASM	1	
11		SCREW.....	2.....	INCLUDED W/RADIATOR
12	12450	GUARD, RADIATOR	1	
13	60049	TRIM EDGE 1/32 (62B3-1/32)	1.5FT	
14		SCREW.....	2.....	INCLUDED W/RADIATOR
15		WASHER	2.....	INCLUDED W/RADIATOR

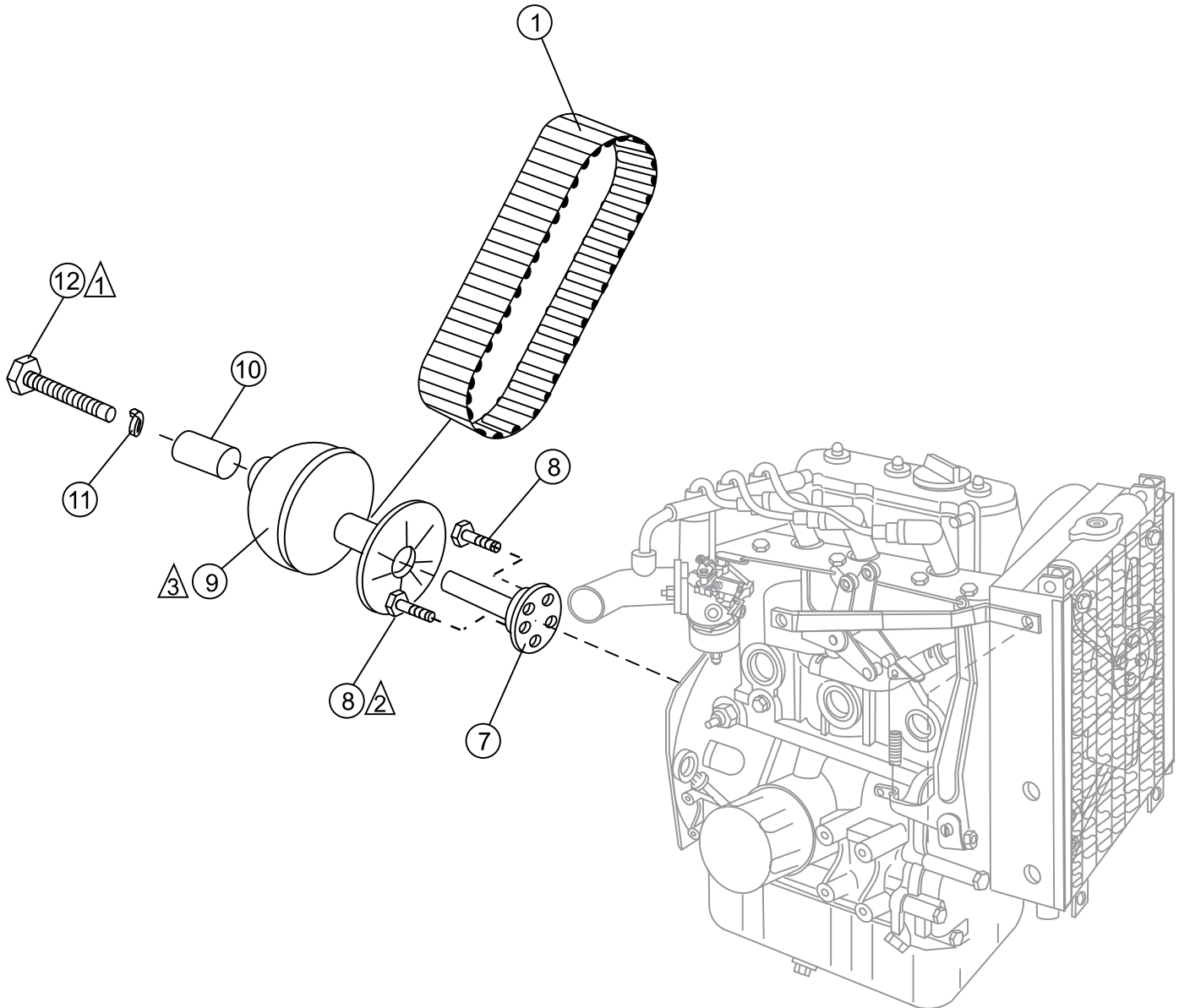
ENGINE MUFFLER ASSY.



ENGINE MUFFLER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	23960	MUFFLER, 31V	1	
2	12848	EXHAUST FLANGE NUT	4	
3	12847	EXHAUST GASKET	1	
4	10114	WASHER, EXT. SHKP, #8	2	
5	0655	SCREW, HHC 5/16-18 X 3/4	2	
6	11819	SCREW, HHC 1/4-20 X 3/4 W/WASH	7	
7	12545	PLATE, BELT GUARD SIDE.....	1	COMET CLUTCH
7	22579	PLATE, BELT GUARD SIDE.....	1	MULTI-CLUTCH
8	11534	NUT, "U" TYPE, 1/4-20	8	
9	0161 C	WASHER, LOCK, 5/16 MED.	4	
10	1605	SCREW, HHC M8-1.25 X 25mm	4	
11	20082	BELT GUARD/MUFFLER SUPPORT W/COMET	1	
12	20098	PLATE, BELT GUARD REAR	1	
13	20178	HEAT SHIELD, MUFFLER	1	

ENGINE CLUTCH ASSY. (COMET)



NOTES:

1 TORQUE TO 150 FT. LBS

2 TORQUE TO 15 FT. LBS.
BOLT IS INCLUDED WITH
ENGINE.

3 COMET CLUTCH
NO LONGER AVAILABLE

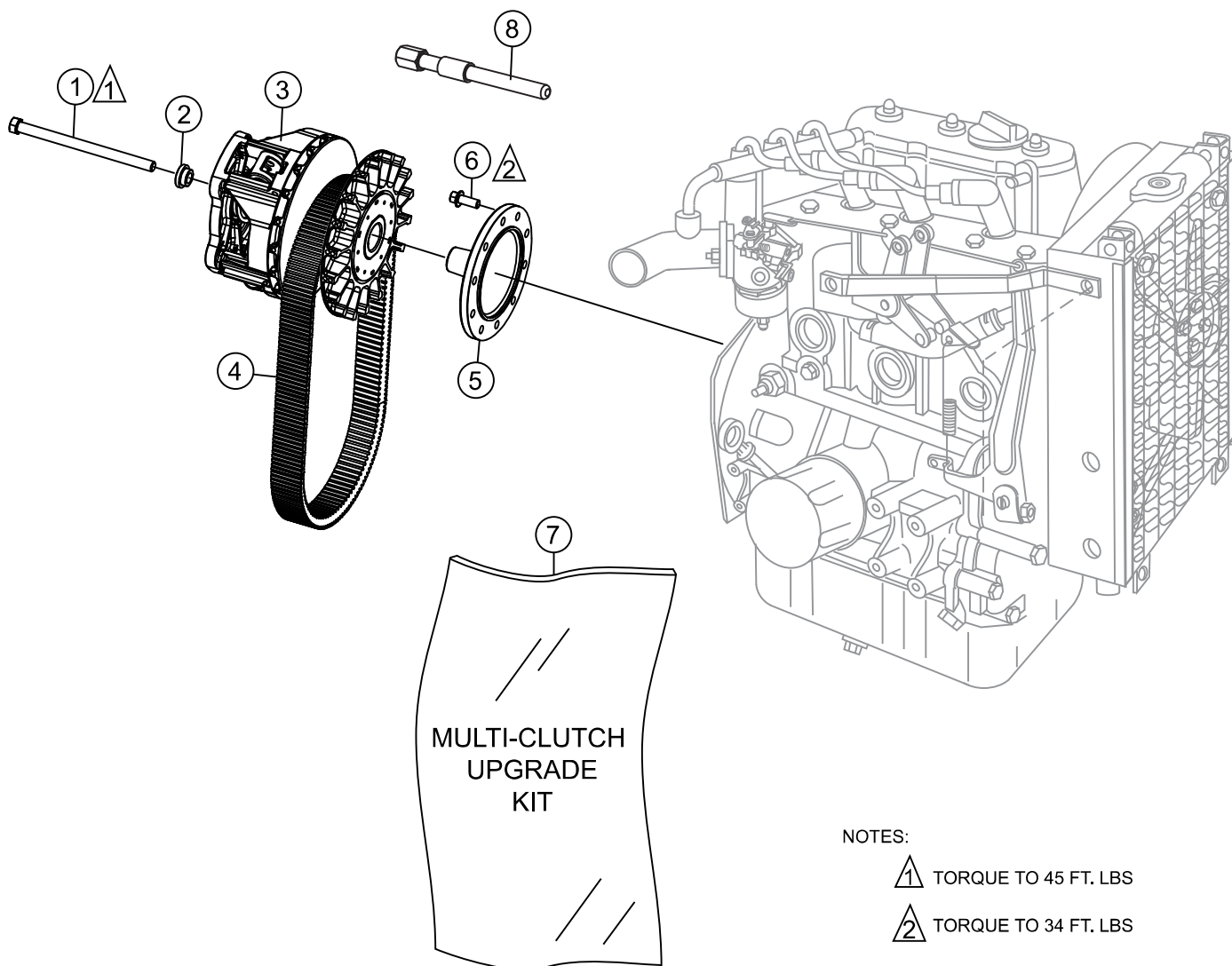
ENGINE CLUTCH ASSY. (COMET)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	20138	BELT, CVT-VANGUARD COMET	2.....	ORDER 2 BELTS FOR SPARES
7	3911758	ADAPTOR, CLUTCH 31 HP VANGUARD	1	
8	20046	SCREW, HHC M8 125 X 25 MM GRADE 10.9	5	
9	12878	CLUTCH, CVT 1-7/16 COMET	1.....	NO LONGER AVAILABLE
		.....		USE CLUTCH KIT P/N 22581
		.....		TO UPGRADE TO
		.....		MULTI-CLUTCH SYSTEM
10	20215	.415 OD X 21/32 ID X 2-1/16L	1	
11	4703	WASHER, LOCK, 5/8 MED	1	
12	20057	SCREW, HHC 5/8-18 X4	1	

NOTICE

Multi-Clutch components are not interchangeable with the prior Hoffco Comet drive system. The Hoffco Comet CVT system must be replaced with Multi-Clutch components in the event of a Hoffco Comet clutch failure.

ENGINE CLUTCH ASSY. (HILLIARD)



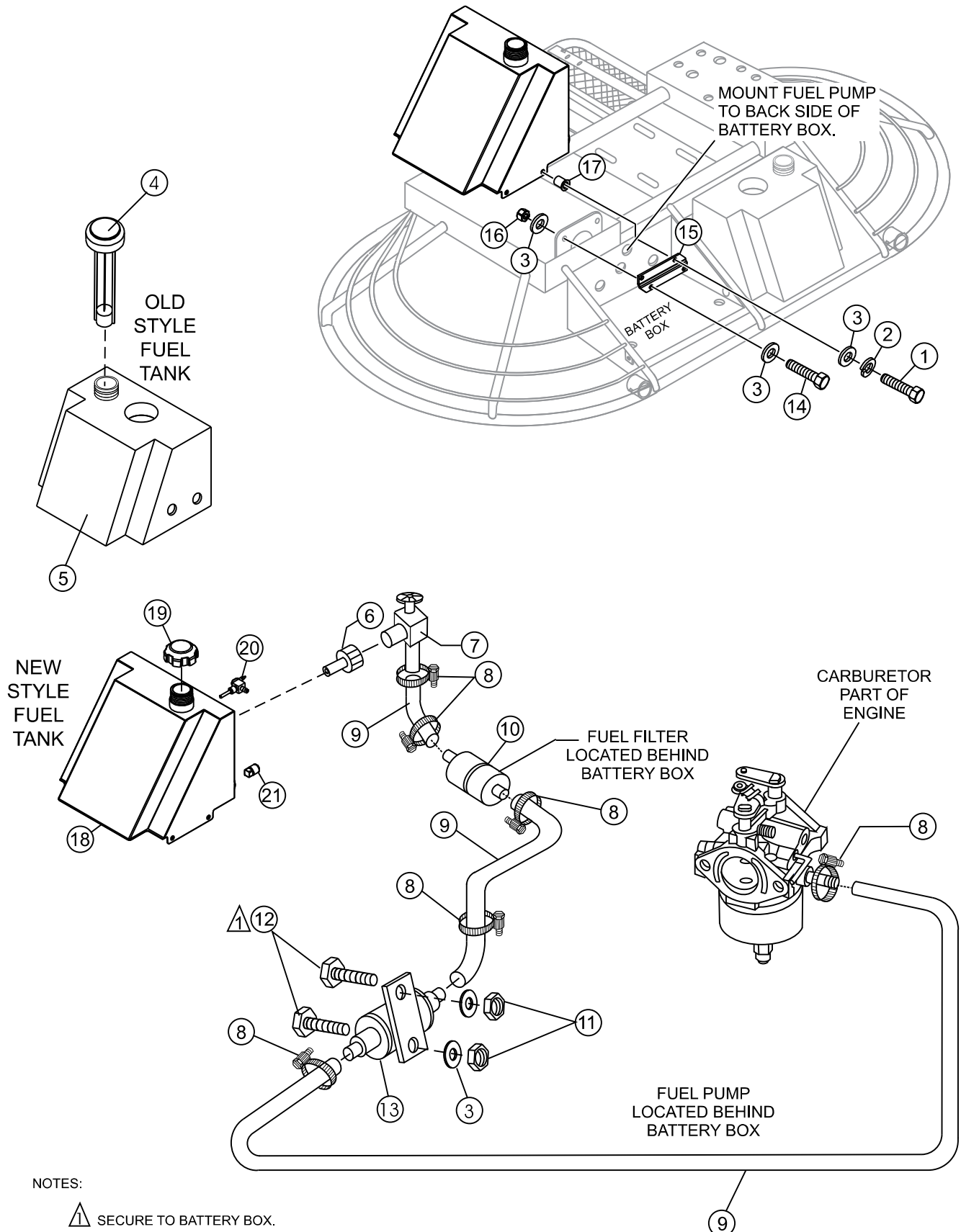
ENGINE CLUTCH ASSY. (HILLIARD)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	23377	SCREW, HHC 7/16-20 X 6.5	1	
2	23369	WASHER, STEP 7/16	1	
3	23363-1	CLUTCH, UPPER, MULTI-CLUTCH	1	
4	23365	BELT, CVT CLUTCH	2	
5	23368	STUB SHAFT	1	
6	22021	SCREW, HEX FLANGE M8	5	
7	22581	KIT, HHN CVT REPLACEMENT	1	
8	23678	PULLER, MULTI-CLUTCH	1	

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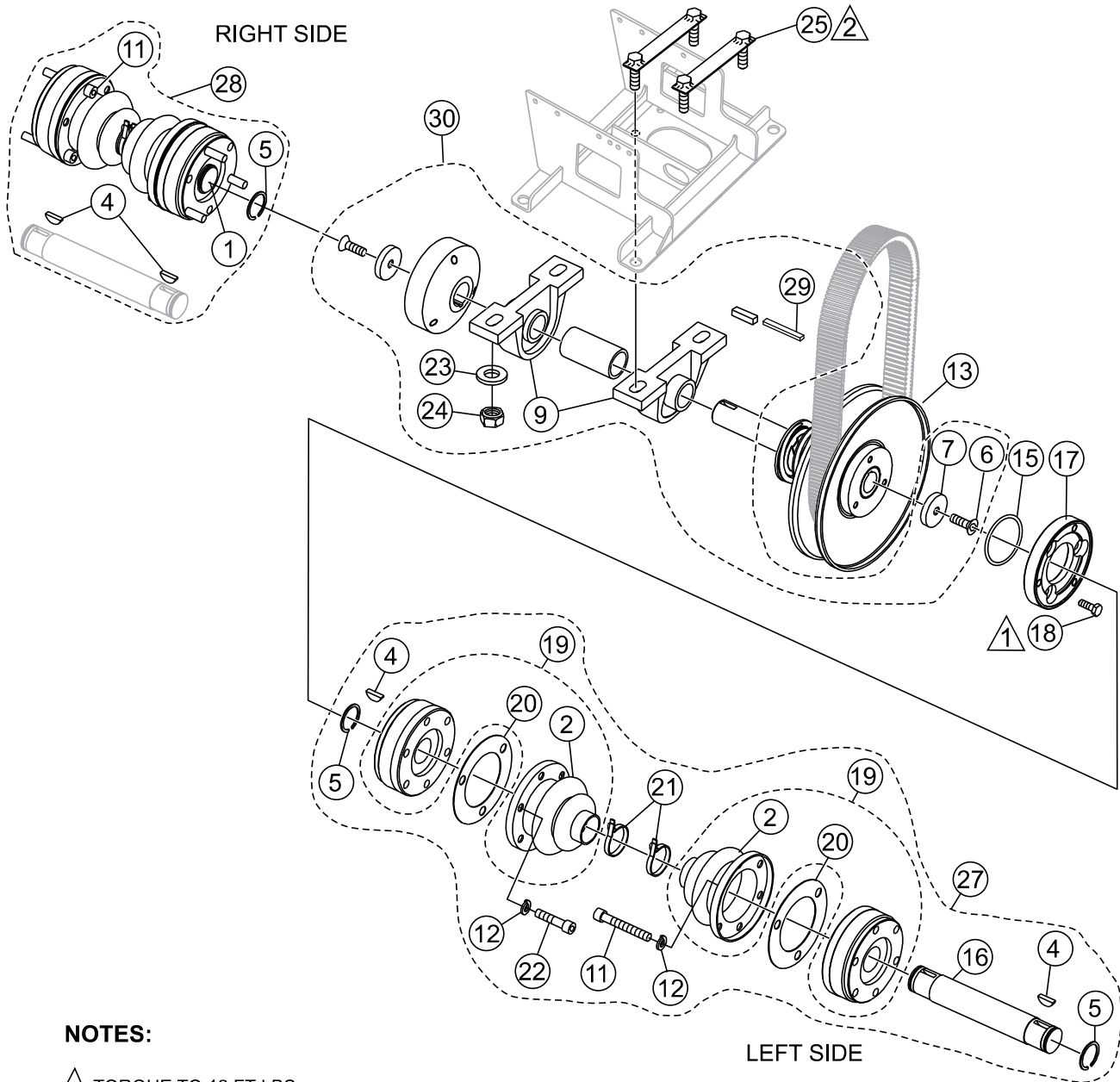
ENGINE FUEL ASSY.



ENGINE FUEL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	4514	SCREW, HHC 1/4-20 X 5/8.....	4.....	OLD STYLE COMET CLUTCH
1	1579	SCREW, HHC 1/4-20 X .5.....	4.....	NEW STYLE MULTI-CLUTCH
2	0161 C	WASHER, LOCK, 5/16 MED.....	4.....	OLD STYLE COMET CLUTCH
3	0948	WASHER, FLAT, 1/4 SAE	4.....	OLD STYLE COMET CLUTCH
3	0948	WASHER, FLAT 1/4 SAE	12.....	NEW STYLE MULTI-CLUTCH
4	11418	FUEL CAP/GAUGE (10.5")	1.....	S/N ZA020476761013007 AND BELOW
5	12404	TANK, HNN 5GAL	1.....	S/N ZA020476761013007 AND BELOW
6	19633	BUSHING, RUBBER FUEL DAPCO10672	1	
7	19661	VALVE , FUEL DRAIN DAPCO 11478	1	
8	19473	CLAMP, WORM HOSE, #4 (1/4-5/8)	6	
9	60013	HOSE, .25ID RUBBER FUEL LINE	3	
10	11984	IN-LINE FUEL FILTER 5/16	1	
11	10024	NUT, NYLOC 1/4-20	2	
12	0131 A	SCREW, HHC 1/4-20 X 3/4	2	
13	12497	FUEL PUMP	1	
14	0131 A	SCREW, HHC 1/4-20 X 3/4.....	4.....	NEW STYLE MULTI-CLUTCH
15	22588	MOUNT, FUEL TANK	1.....	NEW STYLE MULTI-CLUTCH
16	10024	NUT, NYLOC 1/4-20.....	4.....	NEW STYLE MULTI-CLUTCH
17	19266	NUT, BLIND 1/4-20 X 10GA	4	
18	22077	TANK,FUEL W/A-5 GAL EPA/CARB	1.....	S/N ZA020476761013008 AND ABOVE
19	22205	RACHET CAP, TOP VENT	1.....	S/N ZA020476761013008 AND ABOVE
20	22081	SHUTOFF VALVE, 1/4 NPT, 1/4 HOSE.....	1.....	S/N ZA020476761013008 AND ABOVE
21	16185	FITTING, PLUG 1/4MP SQ HD.....	1.....	S/N ZA020476761013008 AND ABOVE

DRIVE ASSY. (COMET)



DRIVE ASSY. (COMET)

NO.	PART NO.	PART NAME	QTY.	REMARKS
1#@\$	2043	SHAFT, CV JOINT BRT, 9-5/8 LONG	1	
2%#@\$	2259	BOOT, C.V. JOINT	4	
4#@\$	0126	KEY, WOODRUFF #9	4	
5#@\$	2090	RING, SNAP TRUARC #5100- 106	4	
9#◆	32484	BEARING, PILLOW BLOCK FAF YAK- 1	2	
11#	2186	SCREW, SHC 5/16-18 X 2-1/4 PLTD	9	
12#	0161 C	WASHER, LOCK, 5/16 MEDIUM	12	
13#	20350	PULLEY, CVT LOWER	1	
15#	20116	O-RING, SIZE- 031 BUNA N	1	
16#	20184	SHAFT, CV JOINT, HHN 7-13/16 LONG	1	
17#	12590	COUPLER, CV JOINT COMET CLUTCH	1	
18#	20056	SCREW, HHC 1/4- 28 X 3/4 GRD. 8	3	
19#@\$	2052	JOINT, CV W/BOOT.....	4.....	INCLUDESITEMW/%
20#@\$	11108	GASKET, CV JOINT BOOT	4	
21#@\$	60103	TIE WRAP, .312 X 8L X .082 THICK	4	
22#	0243	SCREW, SHC 5/16- 18 X 1-3/4	3	
23#◆	10136	WASHER, FLAT 3/8 SAE	4	
24#◆	10133	NUT, NYLOC 3/8 - 16	4	
25#◆	20186	PLATE, BEARING MOUNT	2	
26	23449	DRIVE ASSY., W/ COMET TD.....	1.....	INCLUDESITEMSW/#
27#	23450	CV JOINT ASSY, LH.....	1.....	INCLUDESITEMSW/@
28#	23451	CV JOINT ASSY, RH	1.....	INCLUDESITEMSW/\$
29◆	20363	KEY, STEEL, .188 X .250 X 2.500	1	
30	32581-SK	KIT, COMET CROSS SHAFT ASSEMBLY	1.....	INCLUDESITEMSW/◆

NOTICE

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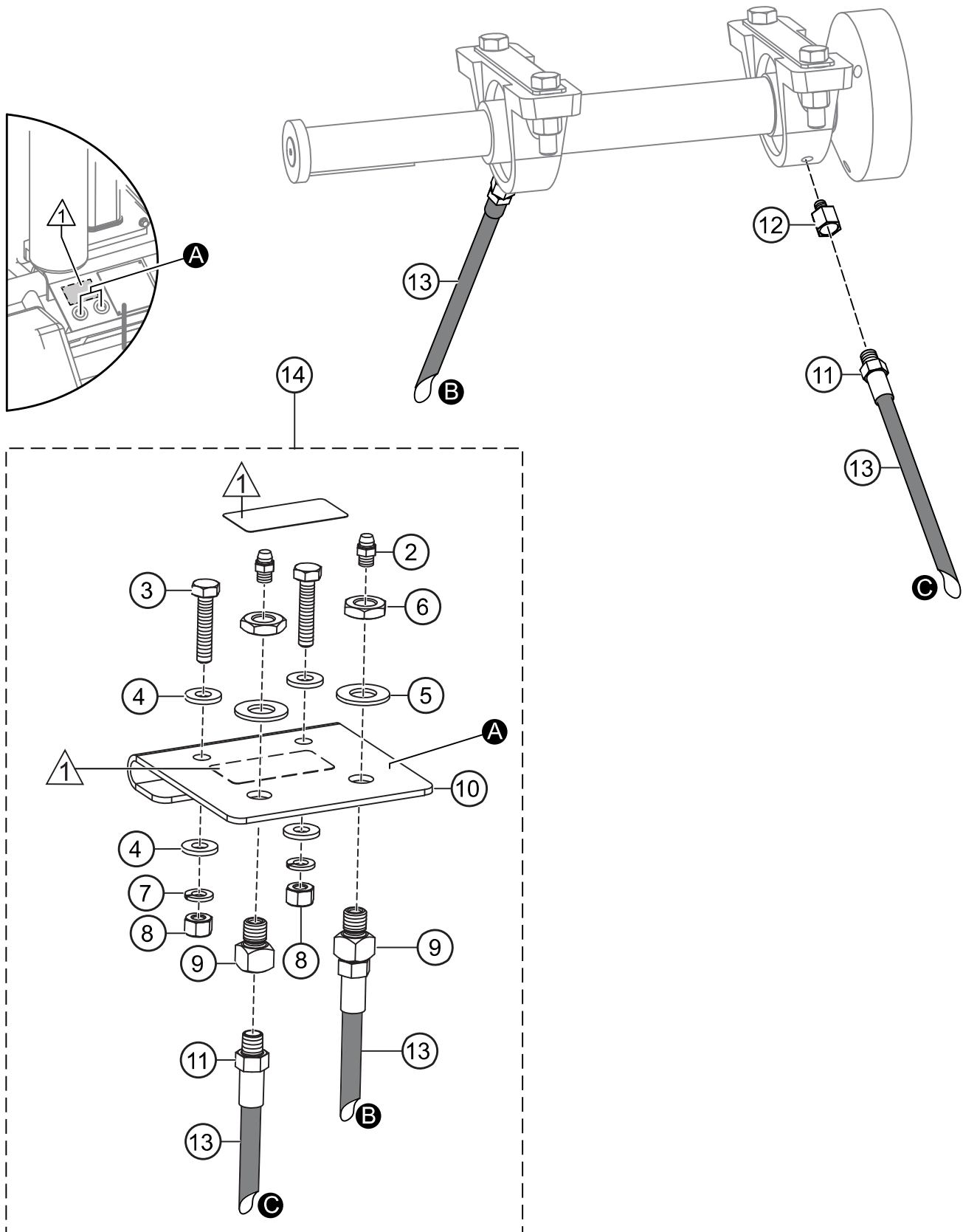
DRIVE ASSY. (HILLIARD)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0161 C	WASHER, LOCK 5/16 MED	12	
2	0243	SCREW, SHC 5/16-18 x 1 3/4	3	
3	2186	SCREW, SHC 5/16-18 x 2-1/4 PLTD	9	
4	9165	SCREW, HHFS 1/4-28 x 3/4 GR5 PATCH	3	
5♦	10133	NUT, NYLOC 3/8-16	4	
6♦	10136	WASHER, FLAT SAE 3/8	4	
7	20116	O-RING, SIZE-031 BUNA N	1	
8♦	20186	PLATE W/A, PILLOW BLOCK BEARING MOUNT	2	
9♦	20363	KEY, STEEL .188 x .250 x 2.500	1	
10	23363-2S	PULLEY,CVT DRIVEN	1	
11	23433	COUPLER, CV-JOINT, CCVT	1	
12	23450	CV JOINT ASM, LH, HHN	1	
13	23451	CV JOINT ASM, RH, HHN	1	
18♦	32484	BEARING, PILLOW BLOCK, FAFYAK-1	2	
21	30108	CROSS SHAFT ASSEMBLY	1.....	REPLACESP/N30103
				INCLUDESITEMSW/♦
22	32441	PRIMER, LOCTITE, 7649	1	
23		LOCTITE, 641	1	

NOTICE

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DRIVE-CROSS SHAFT/GREASE LINE KIT ASSY.

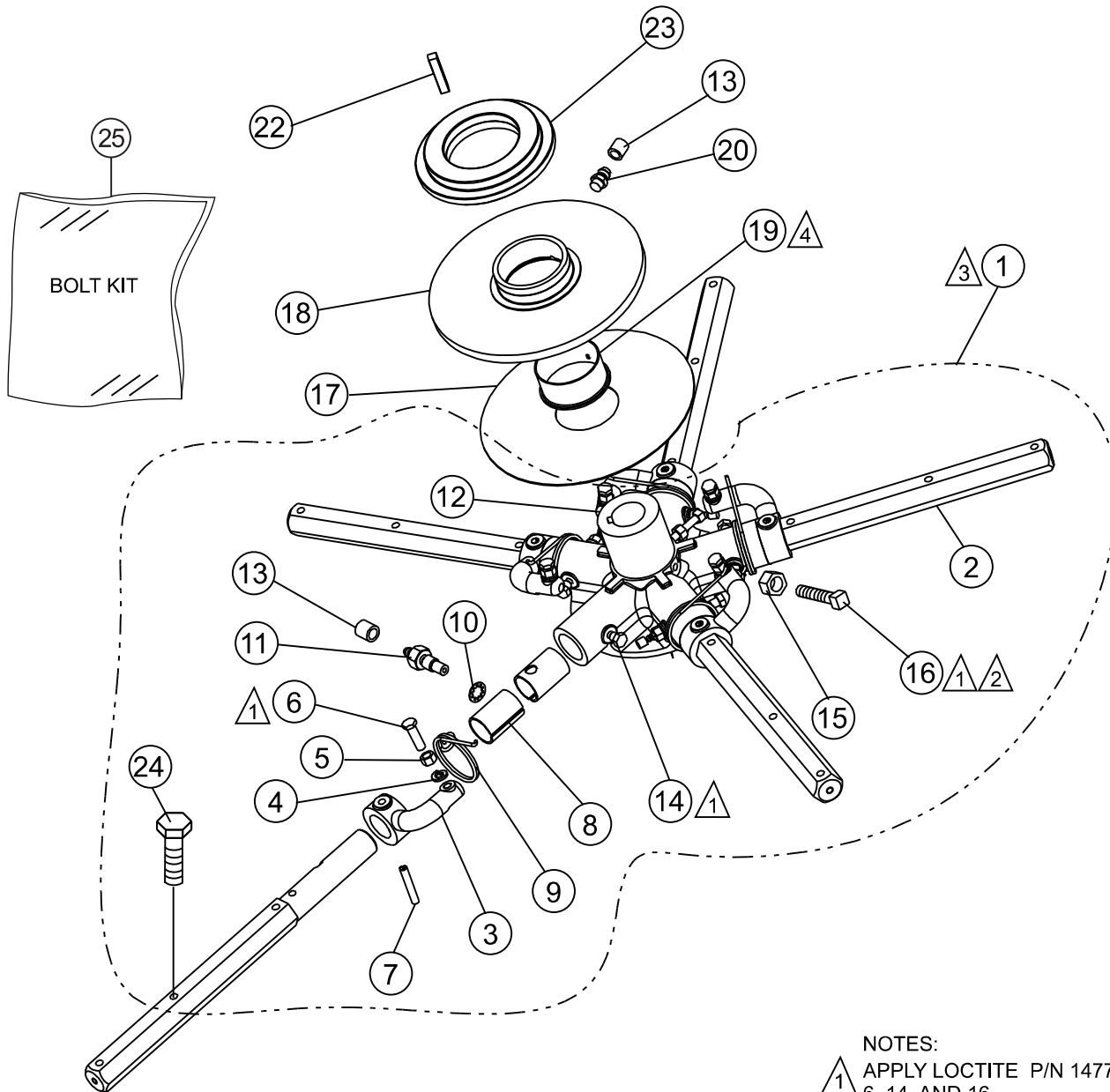


DRIVE-CROSS SHAFT/GREASE LINE KIT ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2@	2621	FITTING, GREASE ZERK STR 1/4-28	2	
3@	0424	SCREW, HHC, 1/4-20 X 1-1/4"	2	
4@	0984	WASHER, FLAT SAE 1/4"	4	
5@	0448	WASHER, FLAT SAE 7/16	2	
6@	23945	NUT, JAM, 1/8" NPSM	2	
7@	0181 B	WASHER, LOCK 1/4" MED	2	
8@	10024	NUT, NYLOC, 1/4-20	2	
9@	23944	FITTING, BULKHEAD MNT, 1/8 NPT X 1/4-28	2	
10@	30041	BRACKET, REMOTE GREASE	1	
11@	23946	SWEDGE FITTINGS, 1/8"NPT	4	
12@	23930	FITTING, REDUCER, 1/4-28 X 1/8-27 NPTF	2	
13@	23943	TUBING, REMOTE GREASE LINE	2	
14	23947	KIT, REMOTE GREASE LINE.....	1.....	INCLUDES ITEMS W/@

SPIDER ASSY. (LEFT)

LEFT-SIDE SPIDER ASSEMBLY (5-BLADE).
VIEW FROM OPERATORS SEAT.



NOTES:

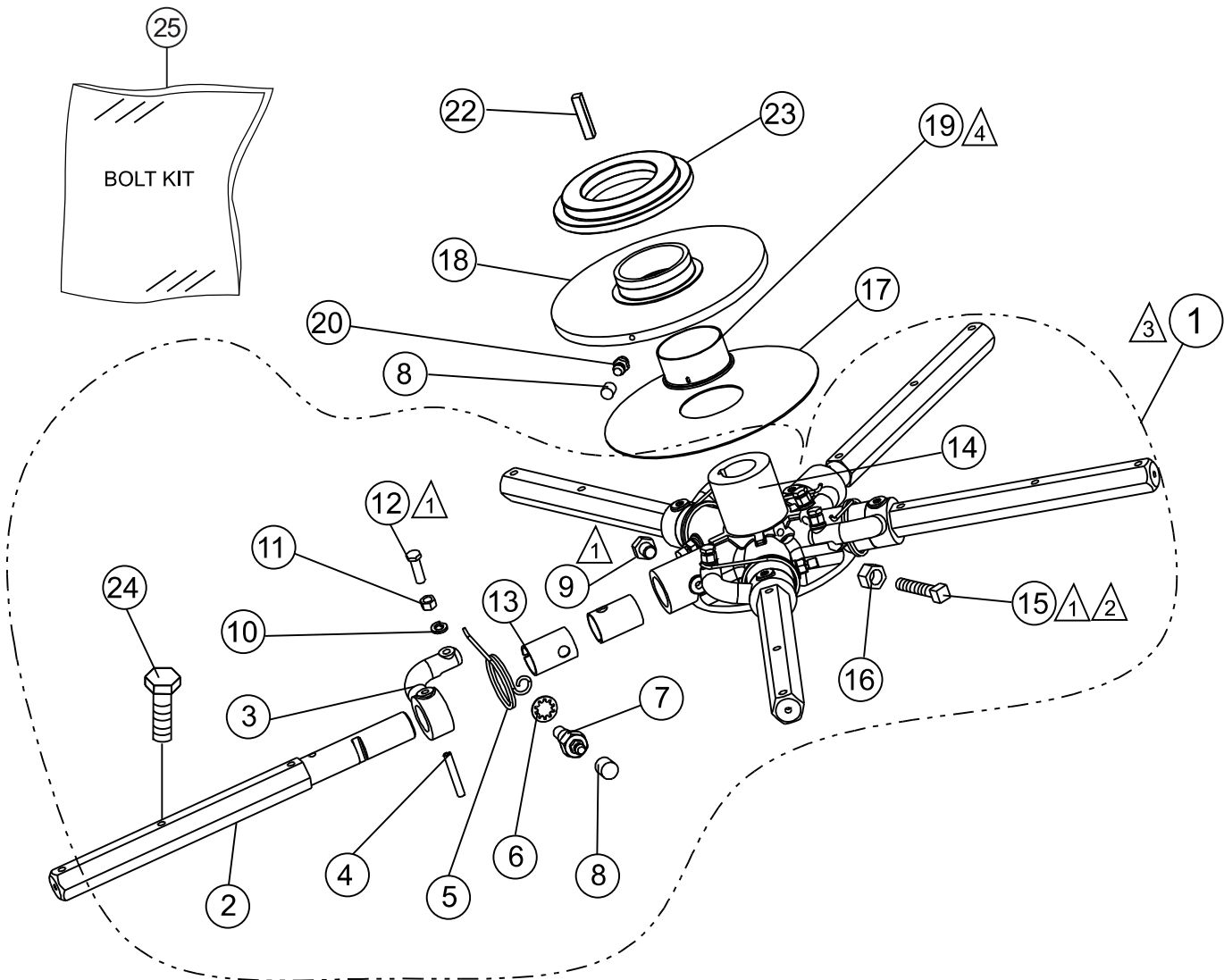
- 1 APPLY LOCTITE P/N 1477 TO ITEMS 6, 14, AND 16.
- 2 TORQUE TO 90 FT. LBS.
- 3 LEFT-SIDE SPIDER ASSEMBLY P/N 12932 INCLUDES ALL ITEMS WITHIN OUTLINE.
- 4 PART OF ITEM 18 (P/N11431).

SPIDER ASSY. (LEFT)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12932	SPIDER ASM, LEFT SIDE (1-1/2)	1	
2	2829	ARM, TROWEL EXTENDED	5	
3	11903	LEVER, TROWEL ARM LEFT SIDE	5	
4	0166 A	WASHER, LOCK, 3/8 MED	5	
5	1876	NUT, HEX JAM 3/8	5	
6	0164 B	SCREW, HHC	5	
7	9006	PIN, ROLL 5/16 X 2	5	
8	11039	BUSHING, ARM 2 PIECE	10	
9	9111	SPRING, LEFT TROWEL	5	
10	1875	WASHER, INT SHKP 3/8	5	
11	1322	SCREW ASSY, ARM RETAINING	5	
12	21208	PLATE, SPIDER 5 BLADE (1-1/2 SHAFT)	1	
13	1162 A	CAP, GREASE ZERK #2	5	
14	11602	SCREW, HHC 3/8-16 X 3/8	5	
15	1456	NUT, HEX FINISH 3/8 -16	2	
16	12097	SCREW, SQHS 3/8-16 X 1-3/4 CONE 8	2	
17	11419	PLATE, WEAR	1	
18	11431	THRUST COLLAR	1	INCLUDES ITEM W/+
19+	12316	BUSHING, THRUST COLLAR	1	
20	2621	FITTING, GREASE	1	
22	12687	KEY, 3/8 X 2	1	
23	12779	BEARING, THRUST 6017 2RS W/FLANGE	1	
24	22174	SCREW, HHCS 5/16-18 X 11/2"	15	
25	23643	KIT, BOLT	1	

SPIDER ASSY. (RIGHT)

RIGHT-SIDE SPIDER ASSEMBLY (5-BLADE).
VIEW FROM OPERATORS SEAT.



NOTES:

△1 APPLY LOCTITE P/N 1477 TO ITEMS 9, 12, AND 15.

△2 TORQUE TO 90 FT. LBS.

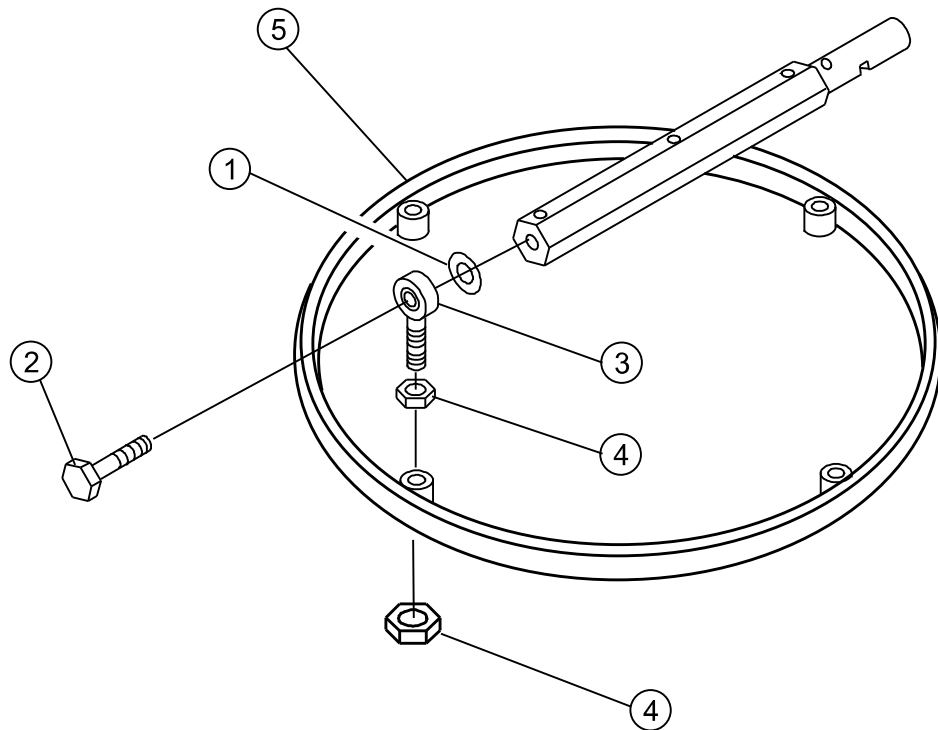
△3 RIGHT-SIDE SPIDER ASSEMBLY P/N 12933 INCLUDES ALL ITEMS WITHIN OUTLINE.

△4 PART OF ITEM 18 (P/N11431).

SPIDER ASSY. (RIGHT)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12933	SPIDER ASM, RIGHT SIDE (1-1/2)	1	
2	2829	ARM, TROWEL EXTENDED	5	
3	11904	LEVER, TROWEL ARM RIGHT SIDE	5	
4	9006	PIN, ROLL 5/16 X 2	5	
5	2143	SPRING, RIGHT TROWEL	5	
6	1875	WASHER, INT SHKP 3/8	5	
7	1322	SCREW ASSY, ARM RETAINING	5	
8	1162 A	CAP, GREASE ZERK #2	5	
9	11602	SCREW, HHC 3/8-16 X 3/8	5	
10	0166 A	WASHER, LOCK, 3/8 MED	5	
11	1876	NUT, HEX JAM 3/8	5	
12	0164 B	SCREW, HHC	5	
13	11039	BUSHING, ARM 2 PIECE	10	
14	21208	PLATE, SPIDER 5 BLADE (1-1/2 SHAFT)	1	
15	12097	SCREW, SQHS 3/8-16 X 1-3/4 CONE 8	2	
16	1456	NUT, HEX FINISH 3/8 -16	2	
17	11419	PLATE, WEAR	1	
18	11431	THRUST COLLAR	1	INCLUDES ITEM W/+
19+	12316	BUSHING, THRUST COLLAR	1	
20	2621	FITTING, GREASE	1	
22	12687	KEY, 3/8 X 2	1	
23	12779	BEARING, THRUST 6017 2RS W/FLANGE	1	
24	22174	SCREW, HHCS 5/16-18 X 11/2"	15	
25	23643	KIT, BOLT	1	

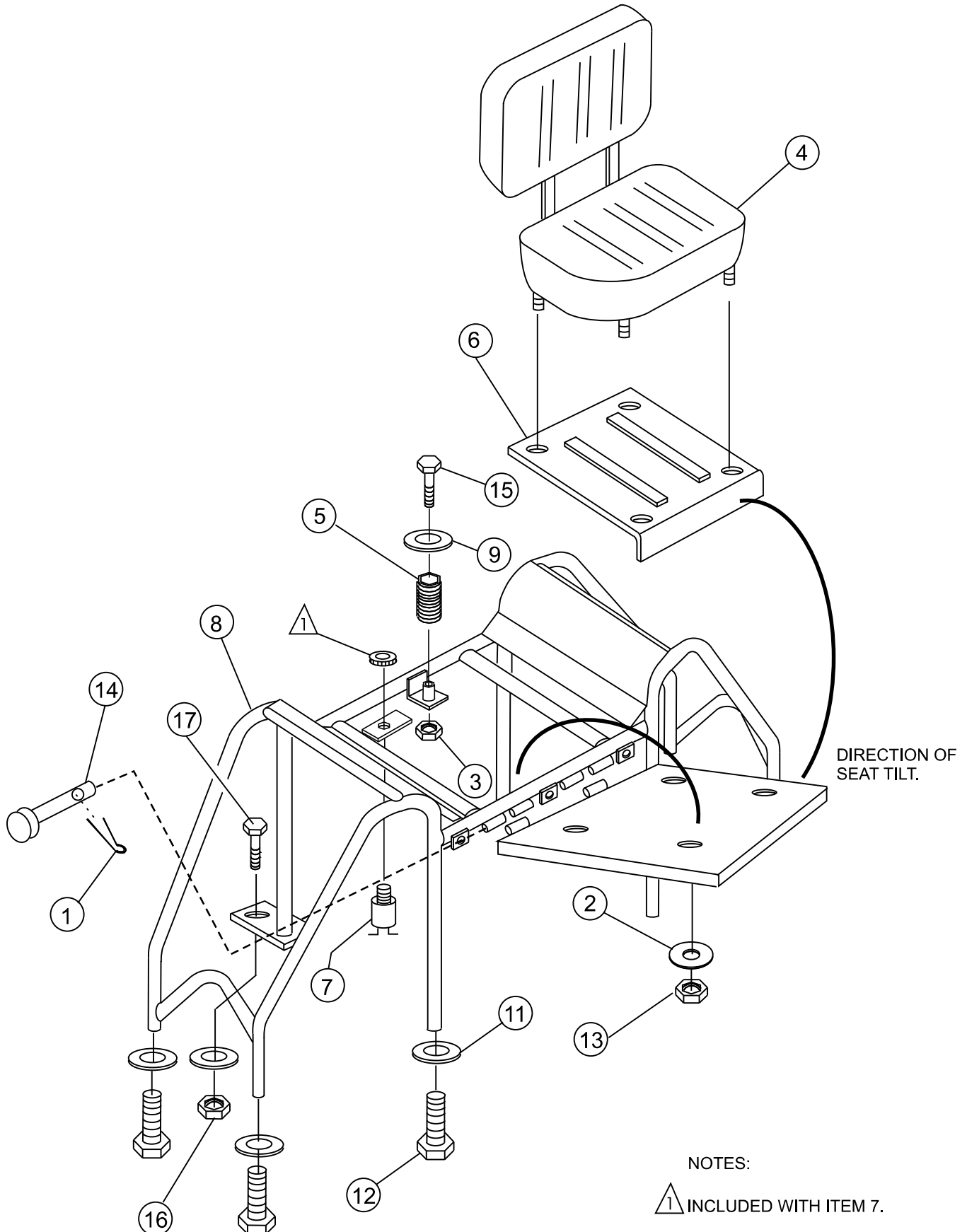
STABILIZER RING ASSY.



STABILIZER RING ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0161C	LOCK WASHER 5/16"	5	
2	1237	SCREW, SCH 5/16-18 X 7/8	5	
3	1723	ROD END, 5/16-24 MALE	4	
4	6014C	NUT, HEX FINISH 5/16-24	8	
5	12095	RING, STABILIZER, EXT ARM, HD	1	

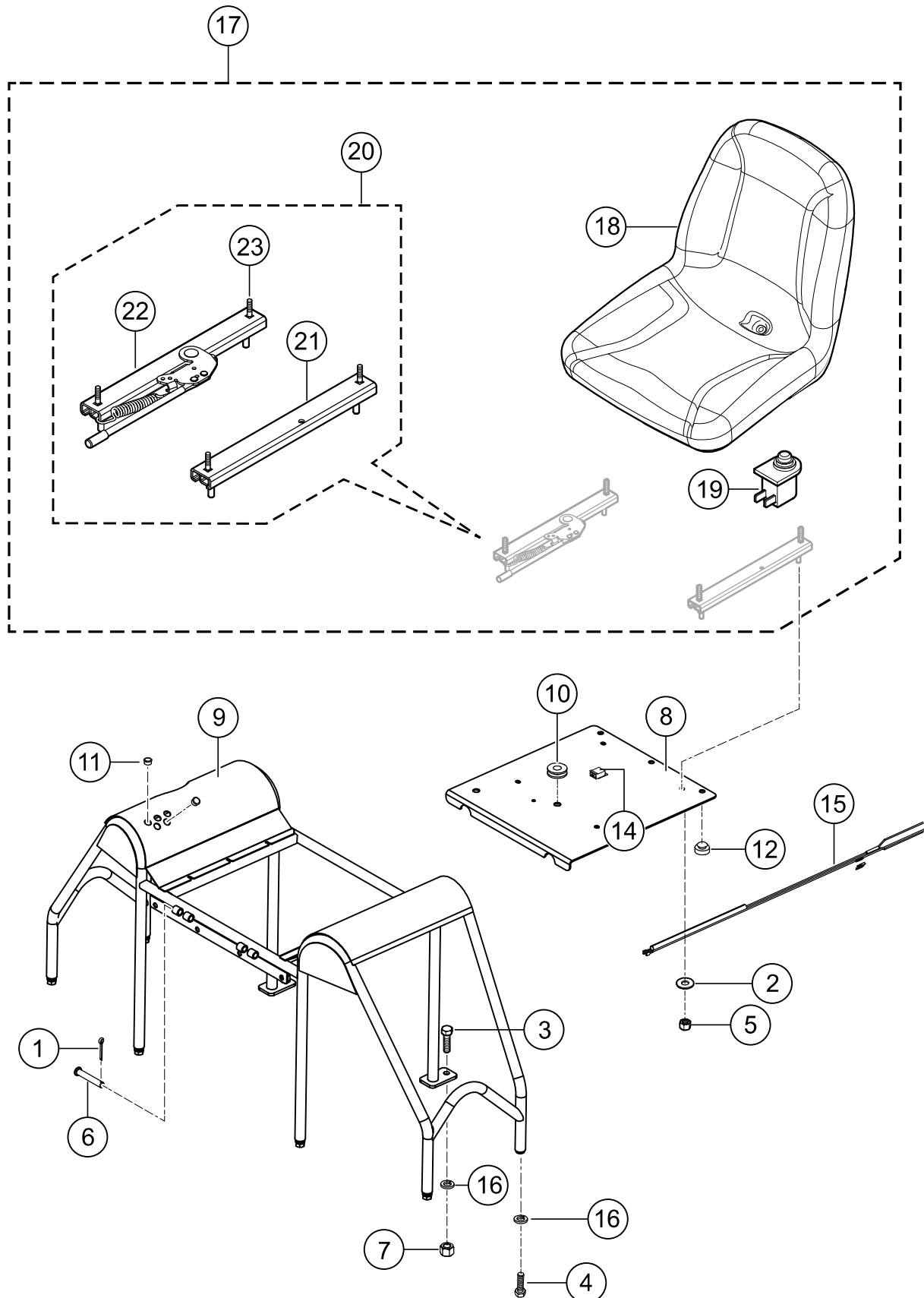
SEAT AND FRAME ASSY. (OLD STYLE)



SEAT AND FRAME ASSY. (OLD STYLE)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0183	PIN, COTTER 1/8X1 1/4	2	
2	0300	WASHER, FLAT, 5/16 SAE	4	
3	10133	NUT, NYLOC 3/8-16	1	
4	11286	SEAT, ADJUSTABLE	1	
5	11593	SPRING, SEAT	1	
6	11660	PLATE, SEAT W/A HHN	1	
7	12005	SWITCH, KILL	1	
8	12987	FRAME, HHN SEAT W/A VAN	1	
9	4001	WASHER, FLAT, 3/8 USS PLD	1	
11	5054A	WASHER, LOCK, 1/2 MED.	6	
12	5218	SCREW, HHC 1/2-13X1 1/2	6	
13	5283	NUT, NYLOC 5/16-18	4	
14	8081	PIN, CLEVIS 1/2X2 3/4	2	
15	8156	SCREW, HHC 3/8-16X2 1/2	1	
16	10176	NUT, NYLOC 1/2-13	2	
17	3214	SCREW	2	

SEAT AND FRAME ASSY. (NEW STYLE)

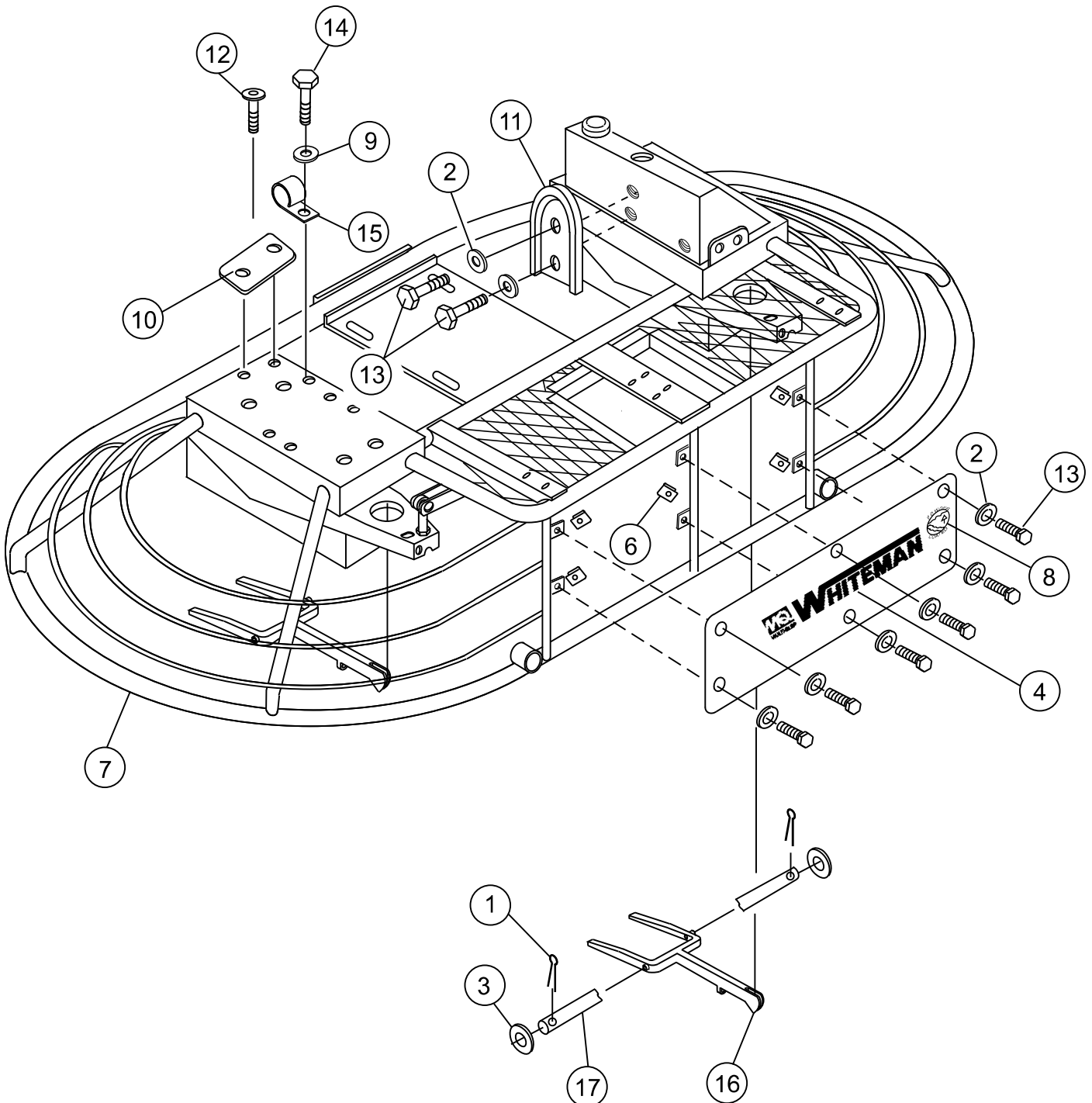


SEAT AND FRAME ASSY. (NEW STYLE)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0183	PIN, COTTER 1/8X1 1/4	2	
2	0300 B	WASHER, FLAT, 5/16 SAE	4	
3	3214	SCREW, HHC, 1/2-13 X 1-1/4"	2	
4	5218	SCREW, HHC 1/2-13X1 1/2	6	
5	5283	NUT, NYLOC 5/16-18	4	
6	8081	PIN, CLEVIS 1/2X2 3/4	2	
7	10176	NUT, NYLOC 1/2-13	2	
8	11660	PLATE, SEAT W/A HHN	1	
9	12987	FRAME, HNN SEAT W/A VAN	1	
10	19468	GROMMET, MINOR Z-4004	1	
11	21507	PLUG, PANEL 11/16 DIA HHN	2	
12	21597	BUMPER, STEM 1.0"D X 5S X 0.31	3	
13	21861	SEAT, MICHIGIAN, ADJUSTABLE W/O ARMS	1	
14	21936	CONNECTOR, BODY-2 PIN, MICH. SEAT	1	
15	21938	WIRE ASM, KILL SWITCH-37"	1	
16	5054 A	WASHER, LOCK, 1/2 MED.	6	
17	21860	SEAT, BASIC MICHIGAN V-2805 SERIES	1	
18	21865	SEAT ADJUSTER KIT	1	
19	21870	KIILL SWITCH, DELTA SYSTEMS 6440-62	1	

FRAME AND COMPONENTS

VIEW FROM OPERATOR'S SEAT

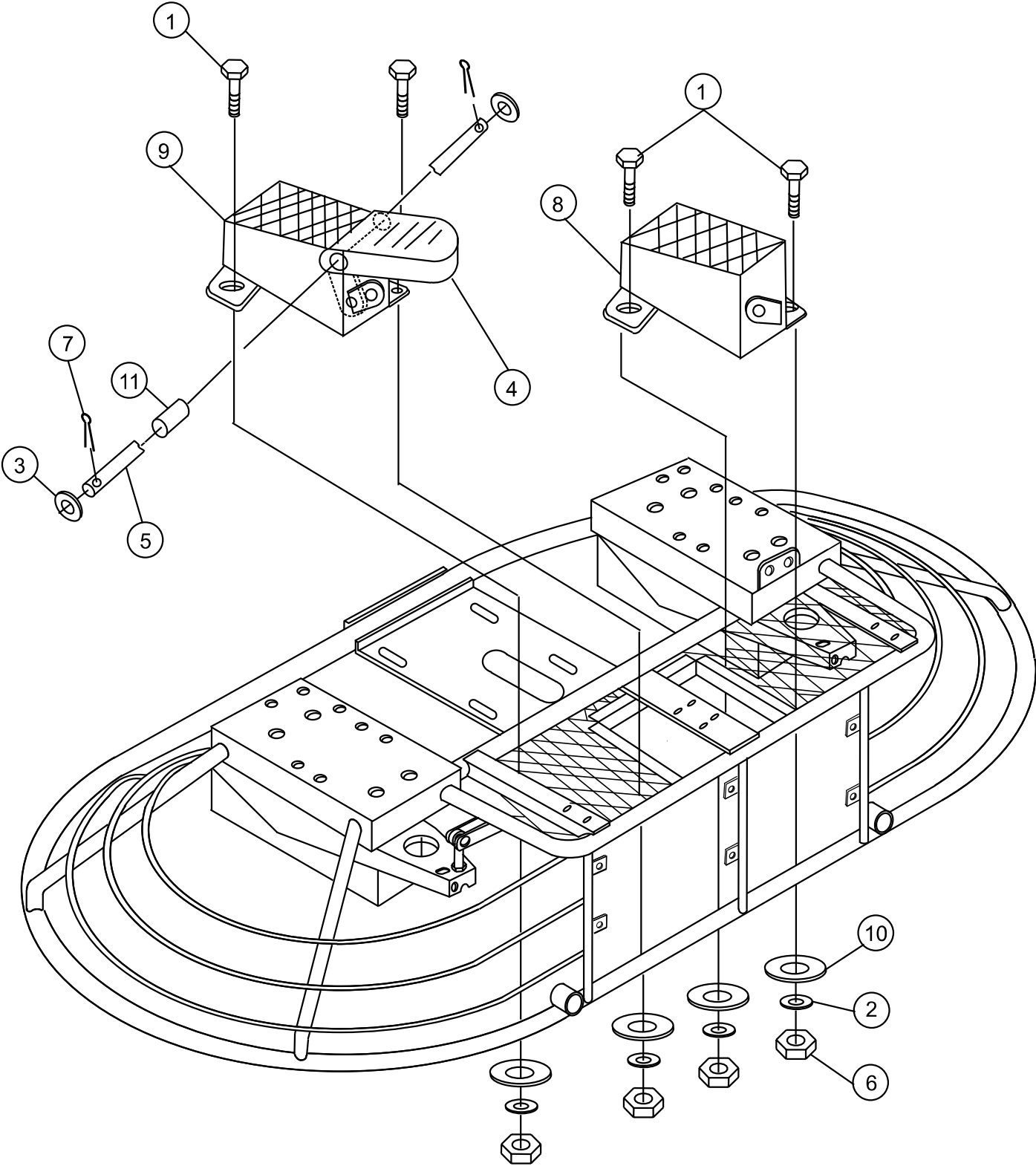


FRAME AND COMPONENTS

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0183	PIN COTTER 3/32X3/4	4	
2	0948	WASHER, FLAT, 1/4 SAE	8	
3	0448	WASHER, FLAT, 3/8 SAE	4	
4	10818	DECAL, MQ WHITEMAN, 23-1/2"	1	
5	11223	PANEL, FRONT (HHN)	1	
6	11534	NUT "U" TYPE, 1/4-20	6	
7	12896	FRAME (HNN-V)	1	
8	13118	DECAL, "POWDER COATED"	1	
9	2203	WASHER, FLAT, #10	3	
10	2411	PLATE, SERIAL, RIDER	1	
11	2429	HOLDER, SPARE BELT ALL	1	
12	4014	SCREW, 2-3/16 P-K TYPE U DRIVE	2	
13	4514	SCREW, HHC 1/4-20X5/8	8	
14	5065B	SCREW, RHM 10-32X1/2	1	
15	8126	CLAMP, HOSE SUPPORT 1/2" SMALL	2	
16	11499	YOKE, HTO/HTN-V	2	
17	11648	PIN, YOKE	2	

FOOT PEDALS ASSY.

VIEW FROM OPERATOR'S SEAT



FOOT PEDALS ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0202	SCREW, HHC 5/16-18X1	4	
2	0300B	WASHER, FLAT, 5/16 SAE	4	
3	10136	WASHER, FLAT, 3/8 SAE	2	
4	2086	PEDAL, ACCELERATOR	1	
5	2772	PIN, ACC MOUNT	1	
6	5283	NUT, NYLOC 5/16-18	4	
7	6014B	PIN, COTTER 3/32X1	2	
8	12985	LEFT SIDE FOOT REST	1	
9	12986	RIGHT SIDE FOOT REST	1	
10	3233	WASHER, FENDER, 1.5ODX3/8ID	4	
11	3083	SPACER	1	

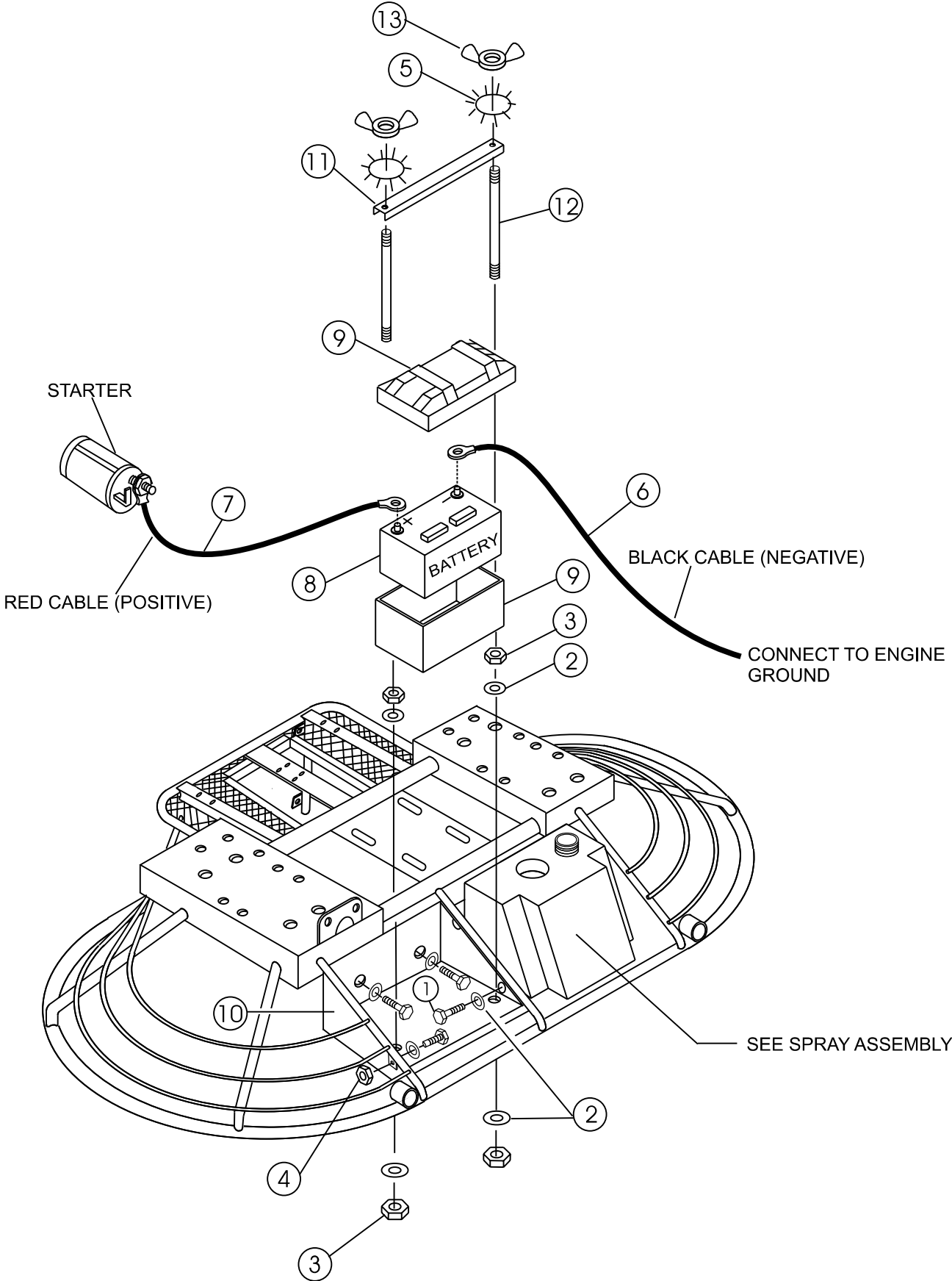
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1 PART OF THROTTLE CABLE ASSY.

THROTTLE FOOT PEDAL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0937	NUT, HEX 10-32	3	
2	10018	SCREW, SHC 10-32X1 NO PLATE	1	
3	10019	NUT, NYLOC 10-32	1	
4	2153	ROD END, 10-32 FEMALE RH	1	
5	2203	WASHER, FLAT, #10	2	
6	2753	SPRING, THROTTLE RETURN, LOWER	1	
7	2754	ADAPTOR, THROTTLE RET. SPRING LG.	1	
8	2755	ADAPTOR, THROTTLE RET. SPRING SHOR	1	
9	2124	CABLE, THROTTLE (RT)	1	
10	8133	SCREW, RHM 10-32 X 3/4	1	
11	2203	WASHER, FLAT #10	1	
12	11710	SPACER, ENGINE THROTTLE	1	
13	0300 B	WASHER, FLAT, 5/16 SAE	1	
14	2153	ROD END, 10-32 FEMALE RH	1	
15	10237	WASHER, EXT. SHKP, 5/16?	4	
16	11771	BRACKET, ENGINE THROTTLE CABLE	1	

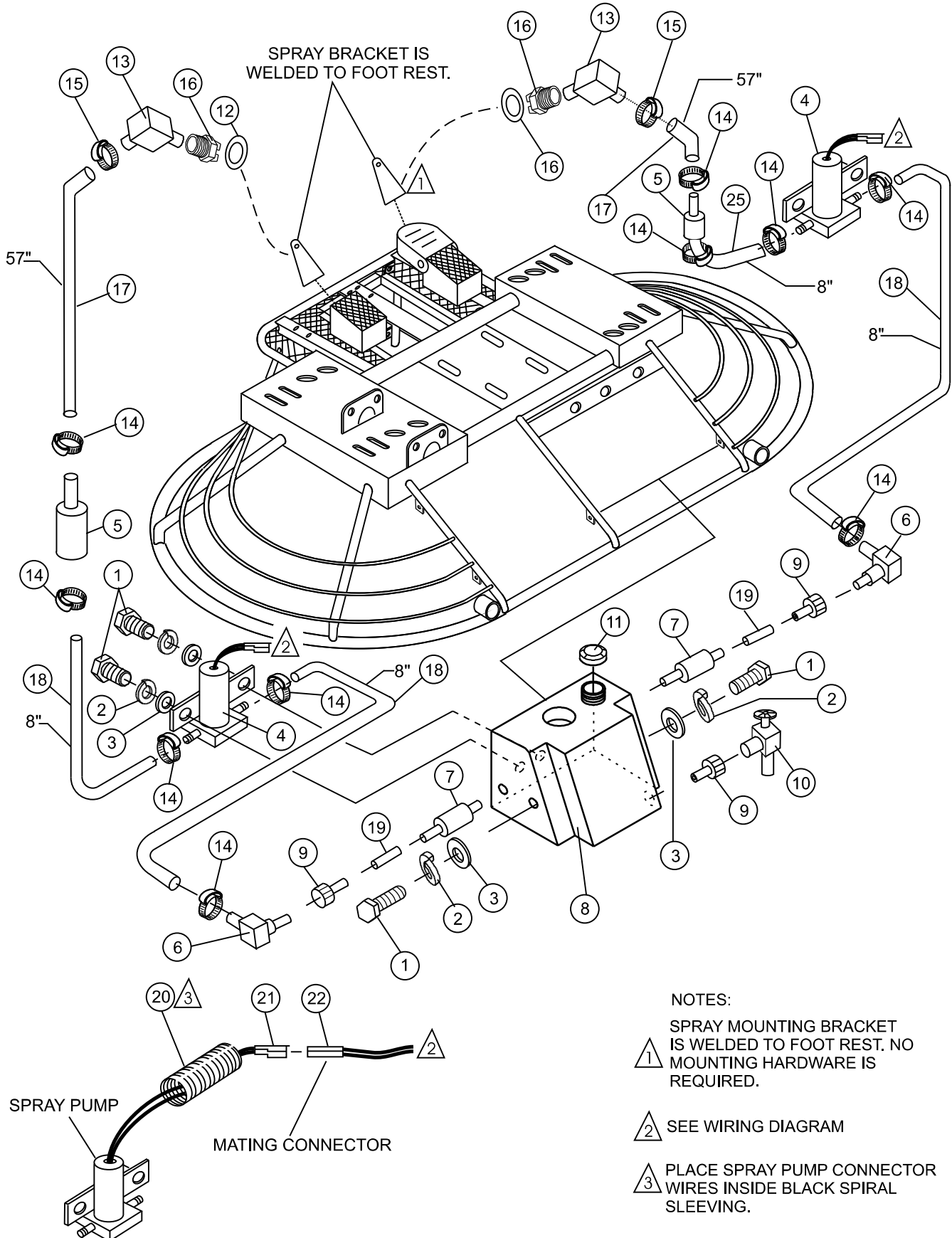
BATTERY ASSY.



BATTERY ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0730	SCREW, HHC 1/4-20X1	4	
2	0948	WASHER, FLAT, 1/4SAE	8	
3	0949	NUT, HEX FINISH 1/4-20	4	
4	10024	NUT, NYLOC 1/4-20	4	
5	10031	WASHER, EXT SHKP, 1/4	2	
6	10313	CABLE, NEG BATTERY BLACK 20"	1	
7	19303	CABLE, POS BATTERY RED 48"	1	
8	10315	BATTERY, 12V WET GROUP 22	1	
9	10318	BATTERY BOX, GROUP 24, W/LID	1	
10	11362	BATTERY FRAME BOX	1	
11	11692	BRACKET, BATTERY BOX HOLD DOWN	1	
12	11693	BOLT, BATTERY BRKT	2	
13	2509	NUT, WING 1/4-20 PLATED	2	

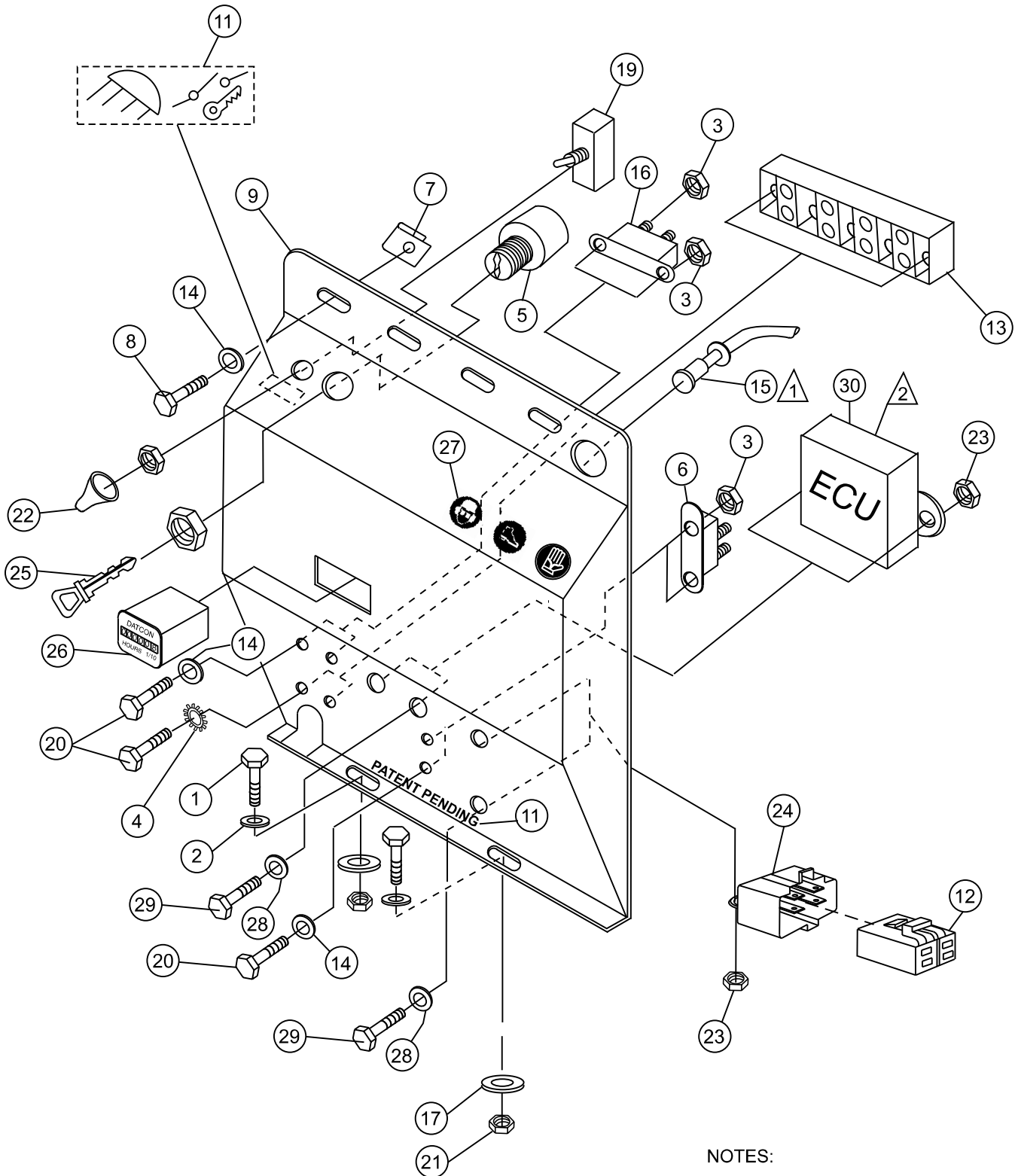
SPRAY ASSY.



SPRAY ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0131 A	SCREW, HHC 1/4-20 X 3/4	6	
2	0181 B	WASHER, LOCK, 1/4 MED	6	
3	0948	WASHER, FLAT, 1/4 SAE	6	
4	12548	PUMP, SPRAY	2	
5	10022	FITTING, PLASTIC 6 BARB – 4 BARB	2	
6	12008	FITTING, 90 6 BARB – 4 BARB FUEL	2	
7	12009	SCREEN, FILTER	2	
8	12403	TANK, RETARDANT 5 GALLON	1	
9	19633	BUSHING, RUBBER FUEL	3	
10	19661	VALVE, FUEL DRAIN	1	
11	2108	CAP, SPRAY TANK	1	
12	2898	WASHER, BONDED NEOPRENE 1 X 1/2	2	
13	2912	FITTING, 90 4 BARB –1/4 FP	2	
14	2918	CLAMP, HOSE, 475 - 536 ID	8	
15	2930	CLAMP, HOSE, 360 - 410 ID	4	
16	392292	NOZZLE, SPRAY	1	
17	60001	HOSE, 25 ID X 375 OD	10 FT.	
18	60002	HOSE, 375 ID X 5 OD	32"	
19	60058	HOSE, 1/4 X 3/8 PVC FUEL YELLOW	4"	
20	60221	CABLE, SLEEVING BLACK SPRIAL	1 FT.	
21	2687	TBD		
22	2680	TBD		

FRONT PANEL ASSY.



NOTES:

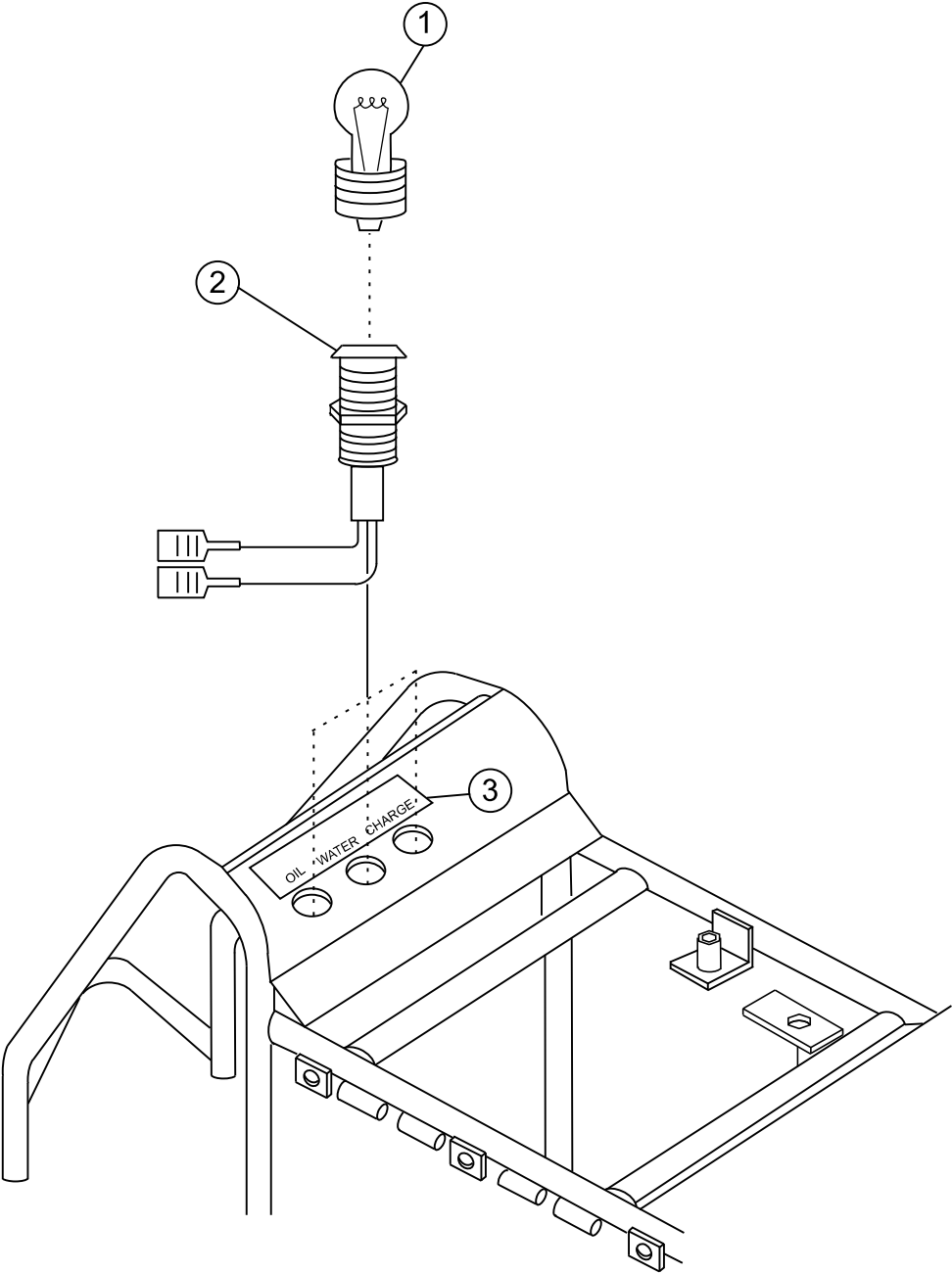
△ 1 CHOKE CABLE ASSY. CONNECT TO CARBURETOR LINKAGE

△ 2 ELECTRONIC CONTROL UNIT (ECU) IS INCLUDED WITH ENGINE, SEE VANGUARD ENGINE OWNER'S MANUAL.

FRONT PANEL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0202	SCREW, HHC 5/16-18 X 1	2	
2	0300B	WASHER, FLAT, 5/16 SAE	2	
3	10019	NUT, NYLOC 10-32	8	
4	10114	WASHER, EXT. SHKP, #8	2	
5	10958	SWITCH, IGNITION VAN W/KEYS	1	
6	11098	CIRCUIT BREAKER, 40A, 12V	1	
7	11534	NUT, "U" TYPE, -20	4	
8	11819	SCREW, HHC -20 X 3/4 W/WASH	4	
9	11861	PANEL, HTO/N VANGUARD CONTROL	1	
10	11912	DECAL, "PATENT PENDING"	1	
11	12571	DECAL, INSTRUMENT LITES (31V)	1	
12	12018	CONNECTOR, RELAY	1	
13	19301	TERMINAL STRIP	.5	
14	2203	WASHER, FLAT, #10	4	
15	2580	CABLE, CHOKE	1	
16	2673	CIRCUIT BREAKER, 30A, 12V	1	
17	3233	WASHER, FENDER, 1.50D X 3/8ID	2	
19	4682	SWITCH, TOGGLE	1	
20	5065B	SCREW, RHM 10-32 X 1/2	4	
21	5283	NUT, NYLOC 5/16-18	2	
22	8381	BOOT, TOGGLE SWITCH	1	
23	10024	NUT, NYLOC 1/4 20	4	
24	12017	ACCESSORY RELAY	1	S/N 61131 AND ABOVE
24	11792	SOLENOID	1	S/N 61130 AND BELOW
25	11078	KEY, IGNITION SWITCH	1	
26	11694	HOUR METER, DATCON	1	
27	11247	DECAL (HELMET, FOOT, HAND)	1	
28	0948	FLAT WASHER 1/4 "	4	
29	12287	SCREW, THP 1/4-20 X 3/4-SS	4	
30	825572	ECU IGNITION MODULE	1	

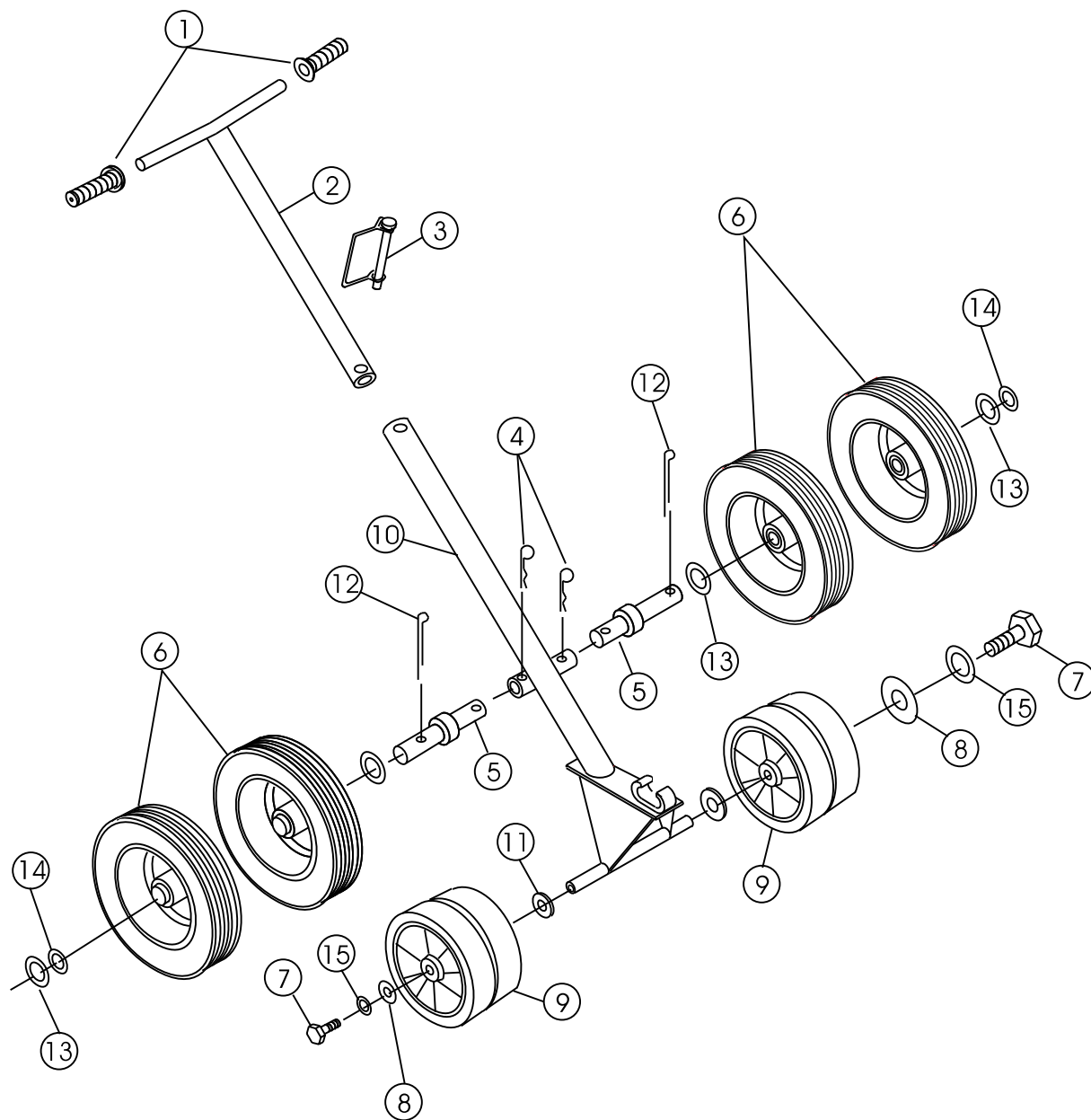
TOP RIGHT PANEL ASSY.



TOP RIGHT PANEL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12307	BULB, INDICATOR LIGHT	3	
2	12305	PLUG INDICATOR LIGHT	3	
3	12571	DECAL, OPERATING LIGHTS	1	

E-Z MOVER AND LIFT HANDLE ASSY.



E-Z MOVER AND LIFT HANDLE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0189	HAND GRIP	2	
2	2336	UPPER HANDLE	1	
3	1869	SNAP PIN	1	
4	7170	CLIP	4	
5	11684	DOLLY AXLE	4	
6	10440	WHEEL & TIRE	4	
7	0655	SCREW, HHCS 5/16-18 X 3/4"	2	
8	0300B	FLAT WASHER 5/16"	2	
9	2364	WHEEL	2	
10	10445	FRAME	1	
11	4684	FLAT WASHER 5/8"	2	
12	0183	COTTER PIN	4	
13	10446	FLAT WASHER 3/4"	8	
14	8151	FLAT WASHER 3/4" SAE	8	
15	0161C	LOCK WASHER 5/16"	2	

EMR-2 E-Z MOVER ASSY — PURCHASE THROUGH MQ UNIT SALES DEPT.