

# OPERATION AND PARTS MANUAL



***WHITEMAN* SERIES**  
**MODEL HTN-31VTCSL5**  
**MODEL HTO-31VTCSL5**  
**RIDE-ON POWER TROWEL**  
**(B & S VANGUARD GASOLINE ENGINE)**

Revision #6 (07/09/07)

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

P/N 12899

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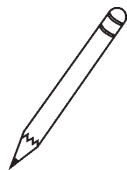
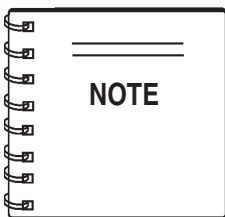
## MQ WHITEMAN — HTN/HTO-31V RIDE-ON POWER TROWEL (VANGUARD ENGINE)

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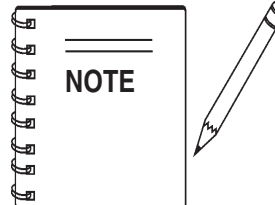
**Specifications and  
part numbers are  
subject to change  
without notice.**

# HTN/HTO-31V — SUGGESTED SPARE PARTS

## 31 VANGUARD ENGINE

### 1 to 3 Units

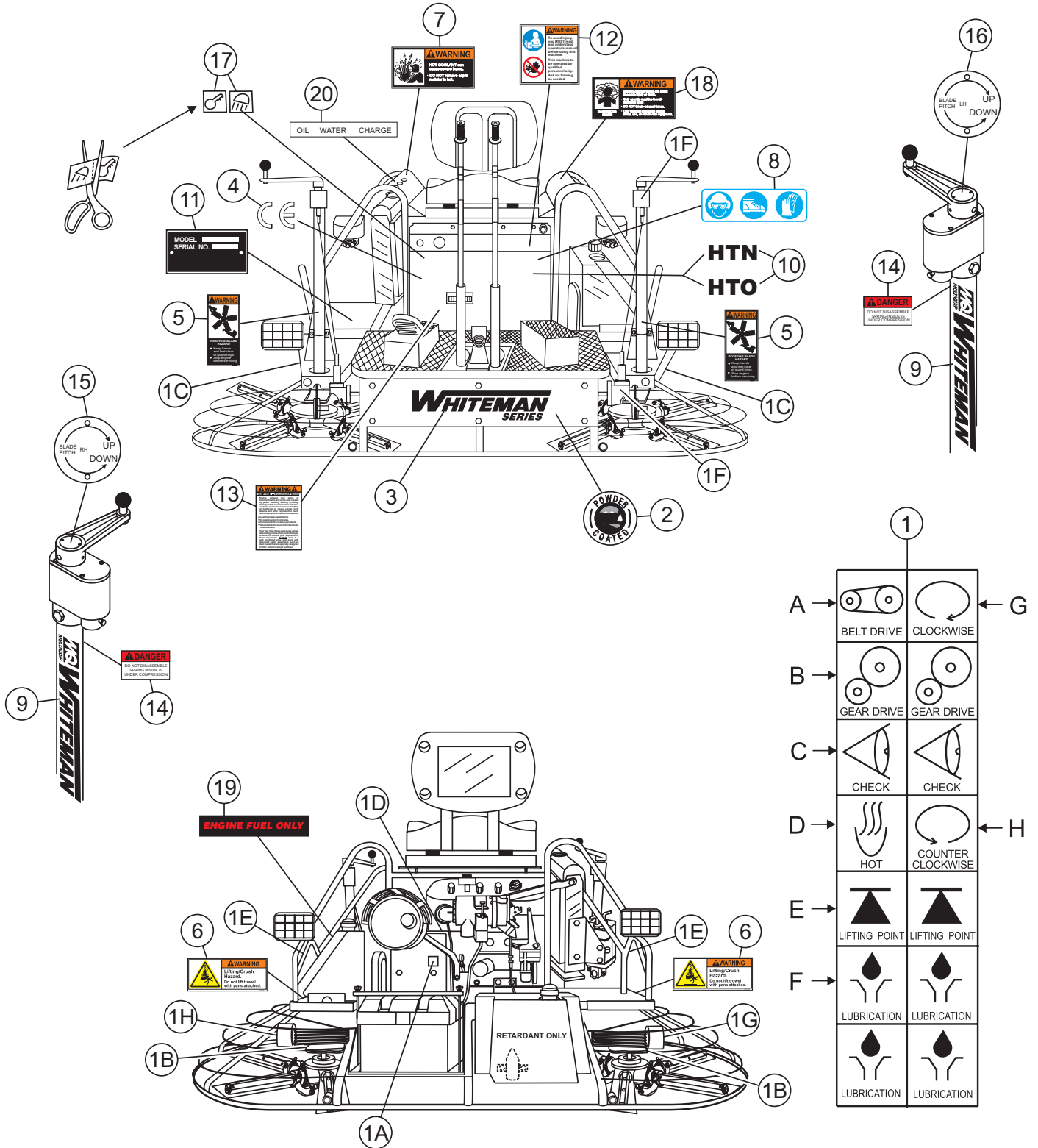
Qty.	P/N	Description
1	11792	ACCESSORY SOLENOID
5	2829	ARMS
4	10937	BELT (B-37)
2	11693	BOLT BATTERY
2	8381	BOOT, TOGGLE SWITCH
2	11692	BRACKET BATTERY
1	11771	BRACKET ENGINE THROTTLE CABLE
11	12771	BRONZE GEAR (L.S. FOR 1-1/4 SHAFT)
1	12772	BRONZE GEAR (R.S. FOR 1-1/4 SHAFT)
5	11039	BUSHING
2	12460	CABLE, PITCH
20	1162A	CAP GREASE FITTING
2	2108	CAP SPRAY TANK
1	2580	CHOKE CABLE
1	2673	CIRCUIT BREAKER 30 AMP, 12V
1	10434	CLAMP
1	10463	CLAMP
2	820263	ELEMENT, AIR CLEANER
2	821075	FAN BELT
2	29509	FUEL CAP STEEL TANK
2	11418	FUEL CAP/GUAGE PLASTIC TANK
1	820026	FUEL FILTER
2	2618	GASKET KIT
1	9032	GEAR WORM
4	189	HANDLE GRIP
4	2267	HANDLE GRIP (RIGHT SIDE)
1	12849	HEADER PIPE
2	825557	HOSE
2	825133	HOSE
2	29640	HOUR METER (NEW STYLE)
2	2655	HOUR METER (OLD STYLE)
20	1876	JAM NUT
1	2323	KEY 1/4 X 1/4 13/16
4	11078	KEYS, IGNITION (SWITCH)
2	12833	KIT, BEARING (1-1/4 SHAFT)
2	2737	KNOB ASSY.
1	10922	LEFT-SIDE FAN
1	1617	LEVER ASSY. TROWEL ADJUSTMENT
2	9005	LEVER TROWEL ARM (L.S.)
2	1986	LEVER TROWEL ARM (R.S.)
1	12764	MAIN SHAFT, 1-1/4 DIAMETER
1	10208	MUFFLER W/CLAMP
20	1456	NUT (3/8 -16)
2	491056	OIL FILTER
1	9028	PIN YOKE
1	10921	RIGHT-SIDE FAN
2	21870	SAFETY KILL SWITCH
20	0164B	SCREW
20	4514	SCREW (HHC 1/4-20 X 5/8)
20	16602	SCREW (HHC 3/8 -16 X 3/8)
20	12097	SCREW (SQH 3/8-16 X 1 3/4 CONE)
20	1322	SCREW ASSY., ARM RETAINING
1	21861	SEAT
1	12586	SHAFT GEARBOX INPUT W/FAN
3	496018S	SPARK PLUG
2	12787	SPIDER, 1-1/4 DIA. MAINSHAFT
2	12548	SPRAY PUMP
2	9111	SPRING (L.S.)
2	2143	SPRING (R.S.)
1	11430	SWITCH
2	10958	SWITCH, IGNITION
1	19301	TERMINAL STRIP (10-POLE)
2	2124	THROTTLE CABLE
2	20938	THRUST COLLAR KIT
2	4682	TOGGLE SWITCH
20	0166A	WASHER
20	1875	WASHER
20	0181B	WASHER 1/4 IN
10	10031	WASHER 1/4 IN.
6	2509	WING NUT
1	1139	WOODRUFF KEY
1	9027	YOKE



Part numbers on this Suggested Spare Parts List may supercede/replace the P/N shown in the text pages of this book.

# HTN/HTO-31V — NAMEPLATE AND DECALS ASSY.

## NAMEPLATE AND DECALS ASSY.



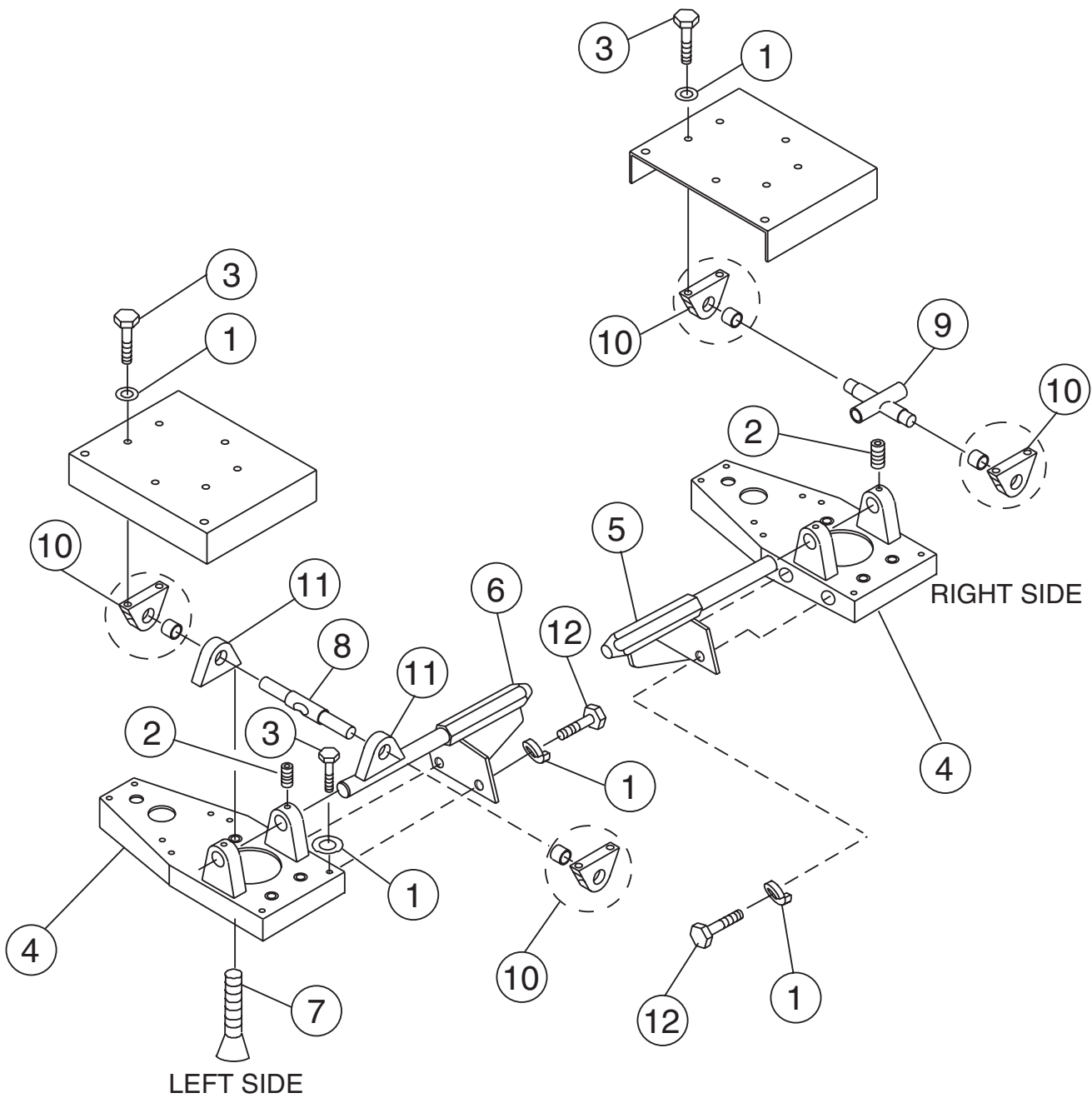
# HTN/HTO-31V — NAMEPLATE AND DECALS ASSY.

## NAMEPLATE AND DECALS ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11246	DECAL SET, INTERNATIONAL STDS .....	1	INCLUDES ITEMS W/#
1A#		DECAL, BELT DRIVE	1	
1B#		DECAL, GEAR DRIVE	2	
1C#		DECAL, CHECK OIL	2	
1D#		DECAL, HOT SURFACE	1	
1E#		DECAL, LIFT POINT	2	
1F#		DECAL, LUBRICATION	4	
1G#		DECAL, CLOCKWISE ROTATION	1	
1H#		DECAL, COUNTER-CLOCKWISE ROTATION	1	
2	13118	DECAL, POWDER COATED	1	
3	21589	DECAL, WHITEMAN SERIES 4.76 X 21.82	1	
4	11092	DECAL, "CE"	1	
5	35168	DECAL, ROTATING BLADE HAZARD, 2.0 x 4.3	2	
6	21455	DECAL, LIFTING/CRUSH HAZARD	2	
7	36091	DECAL, HOT COOLANT 3.5 X 1.75 WRSDPU	1	
8	36099	DECAL, PROTECTIVE CLOTHING	1	
9	1499	DECAL, WHITEMAN	2	
10	21796	DECAL, HTN, 1.73" x 5.09"	1	
10	21797	DECAL, HTO SERIES	1	
11	21600	DECAL, SERIAL PLATE-RIDER, 3.13 x 2.25	1	
12	35137	DECAL, READ MANUAL, ASK FR TRAINING 2.75"	1	
13	20525	DECAL, WARNING "PROP 65", 3.25 x 4.25	1	
14	2634	DECAL, SPRING SAFETY	2	
15	2300	DECAL, AL. PITCH, RH	1	
16	2332	DECAL, AL PITCH, LH	1	
17	2814	DECAL, CONTR PNL	1	
18	36090	DECAL, VENTILATION	1	
19	22088	DECAL, "ENGINE FUEL ONLY" 1.50" x 8.00"	1	
20	12571	DECAL, INSTRUMENT LITES (31V)	1	

# HTN/HTO-31V — PIVOT ASSY.

PIVOT ASSY.

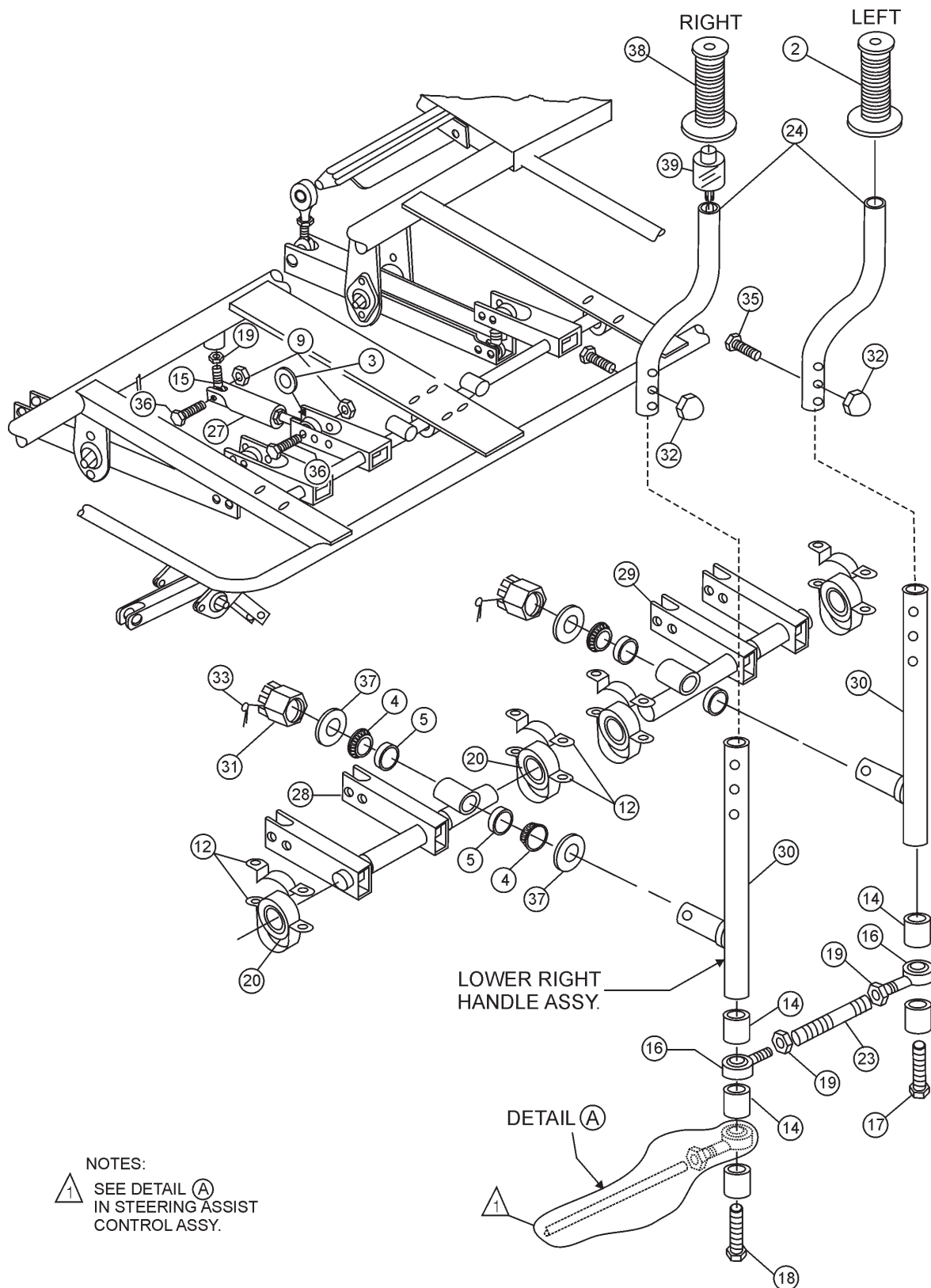


## PIVOT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0166 A	WASHER, LOCK, 3/8 MED.	20	
2	10138	SCREW, SHS 1/4-20 X 1/2, N.P.	4	
3	1023	SCREW, HHC 3/8-16 X 1 1/4	16	
4	11248	PLATE, GEARBOX ADAPTOR	2	
5	12412	ARM, PIVOT RIGHT HTN	1	
5	12414	ARM, PIVOT RIGHT HTO	1	
6	12413	ARM, PIVOT LEFT HTN	1	
6	12415	ARM, PIVOT LEFT HTO	1	
7	1394	SCREW, FHSC 3/8-16 X 1	4	
8	2145	PIVOT JOINT, SINGLE ROCKER	1	
9	2146	PIVOT, DOUBLE ROCKER	1	
10	2304	ROCKER BLOCK	4	
11	2312	ROCKER BLOCK	2	
12	4196	SCREW, HHC 3/8-16 X 3/4	4	

# HTN/HTO-31V — STEERING HANDLES ASSY.

STEERING HANDLES ASSY.



NOTES:  
 ▲ SEE DETAIL (A)  
 IN STEERING ASSIST  
 CONTROL ASSY.

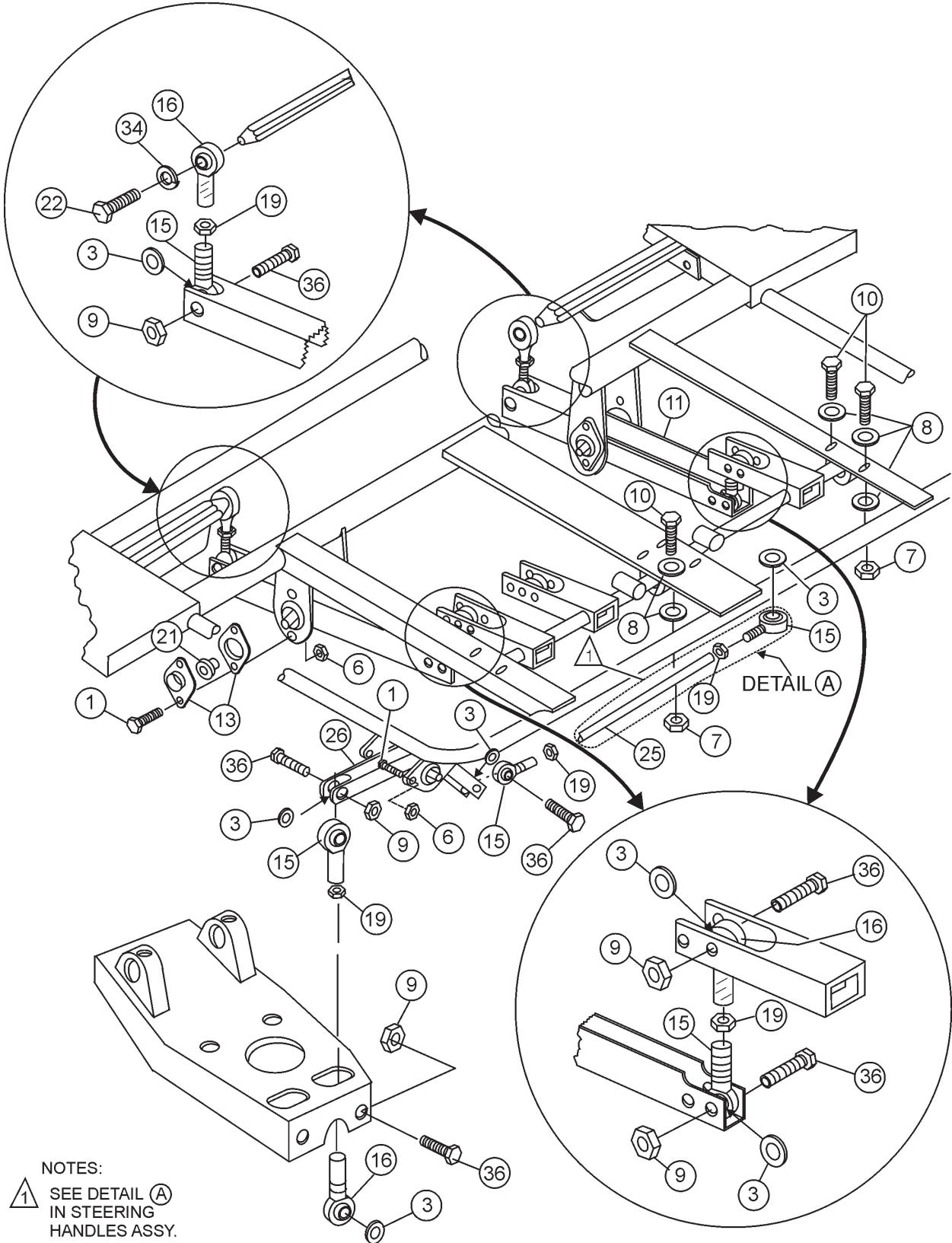
## HTN/HTO-31V — STEERING HANDLES ASSY.

### CONTROL STEERING (ASSIST)

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	0189	GRIP, HANDLE	1	
3	0447	WASHER, FLAT, 1/2 SAE	2	
4	0735	BEARING, CONE, TIMKEN #A6075	4	
5	0735 A	BEARING, CUP, TIMKEN #A6157	4	
9	10176	NUT, NYLOC 1/2-13	4	
12	11138	BEARING, P-BLOCK HOUSING 47MPB	4	
14	11141	SPACER, ROD END	5	
15	11142	ROD END, 1/2-20 MALE RH	2	
16	11143	ROD END, 1/2-20 FEMALE RH	2	
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	4	
20	11149	BEARING, SB-204-12	4	
23	11173	THREADPIECE, 1/2-20 X 2 PLTD	1	
24	11177	HANDLE TUBE, UPPER	2	
27	12200	ASSIST ASM, STEERING SPRING	2	
28	12374	STEERING CONTROL W/A RS ASSIST	1	
29	12375	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	EM963105	SCREW, HHC 1/2-13 X 2	4	
37	8151	WASHER, FLAT, 3/4 SAE	4	
38	2267	GRIP HANDLE, RIGHT	1	
39	11430	SWITCH, PUSHBUTTON	1	

# HTN/HTO-31V — STEERING ASSIST CONTROL ASSY.

STEERING ASSIST CONTROL ASSY.



NOTES:  
1 SEE DETAIL (A)  
IN STEERING  
HANDLES ASSY.

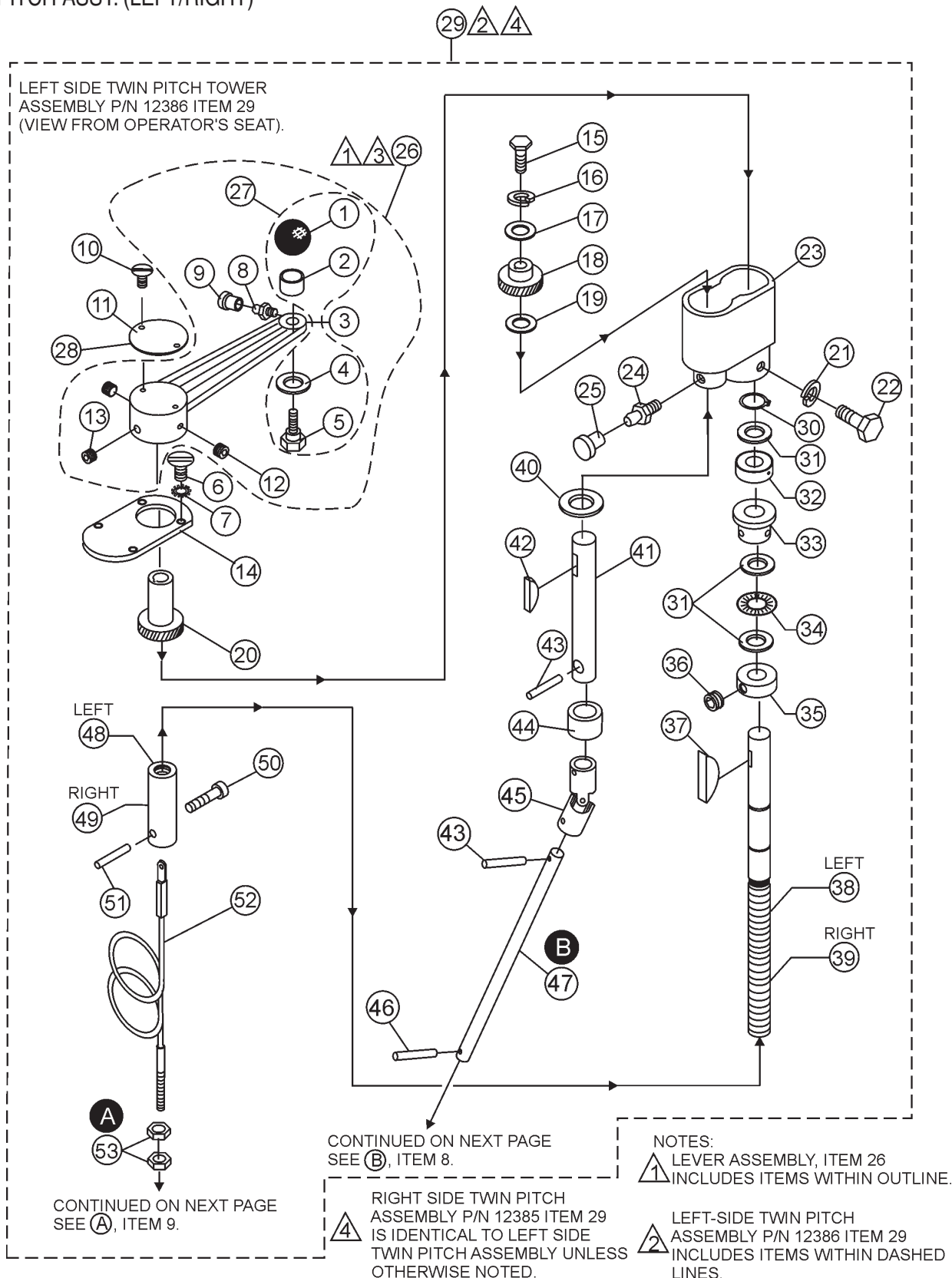
# HTN/HTO-31V — STEERING ASSIST CONTROL ASSY.

## STEERING ASSIST CONTROL 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	12	
7	10133	NUT, NYLOC 3/8-16	8	
8	10136	WASHER, FLAT, 3/8 SAE	16	
9	10176	NUT, NYLOC 1/2-13	9	
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	
15	11142	ROD END, 1/2-20 MALE RH	7	
16	11143	ROD END, 1/2-20 FEMALE RH	5	
19	11146	NUT, HEX JAM 1/2-20	7	
21	11150	BEARING, SB-201-8	6	
22	8136	SCREW, HHC 1/2-20 X 1.1/2" .....	2	..... REPLACES 11170
25	11205	<b>HTN</b> - ROD, L/R MOTION	1	
25	11172	<b>HTO</b> - L/R MOTION	1	
26	12193	LEVER, L/R CONTROL W/A	1	
34	5054 A	WASHER, LOCK, 1/2 MED.	2	
36	6159 A	SCREW, HHC 1/2-13 X 2	9	

# HTN/HTO-31V — TWIN PITCH ASSY. (LEFT/RIGHT)

## TWIN PITCH ASSY. (LEFT/RIGHT)



# HTN/HTO-31V — TWIN PITCH ASSY. (LEFT/RIGHT)

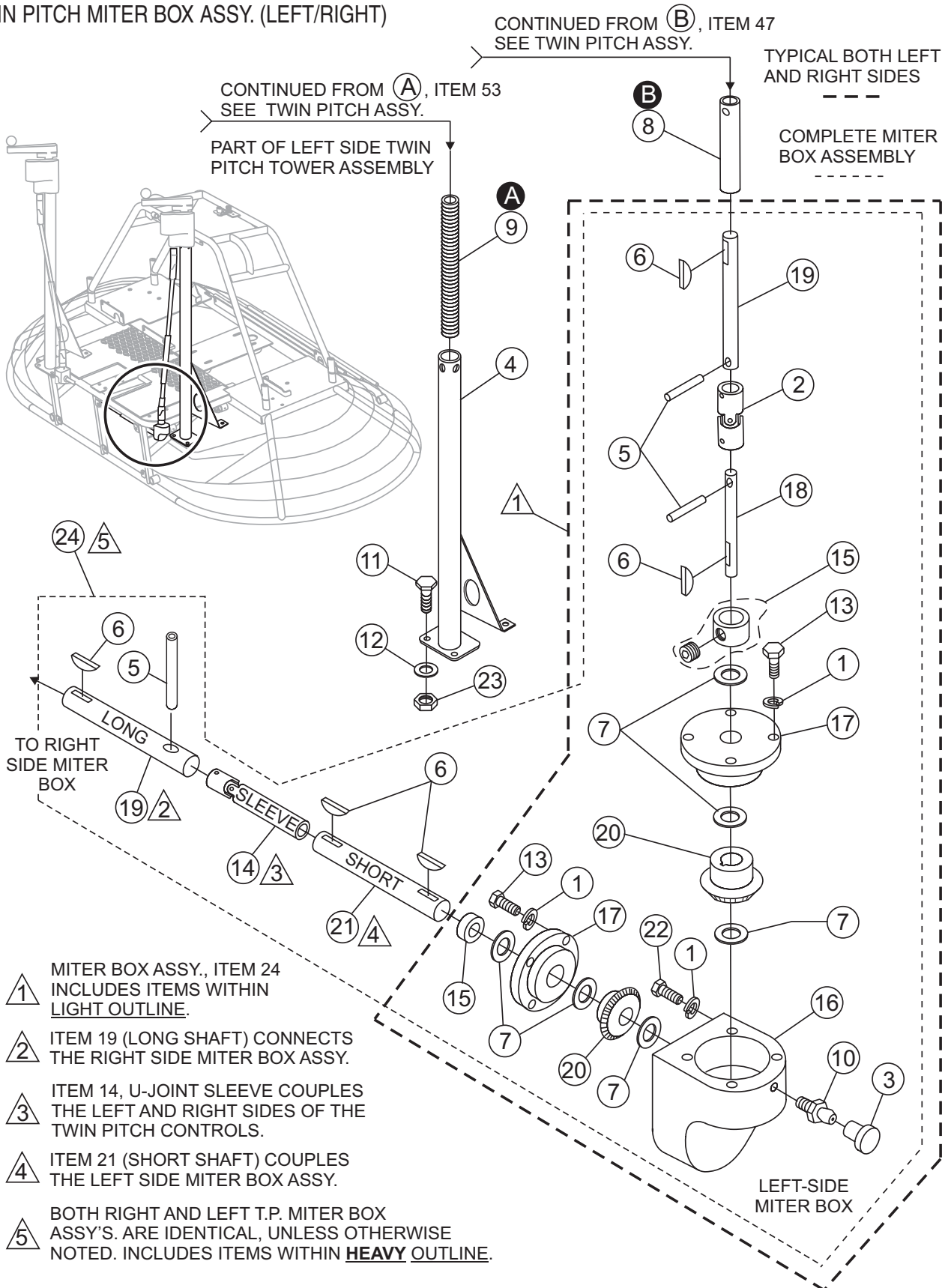
## TWIN PITCH ASSY. (LEFT/RIGHT)

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
1#	4403	KNOB, SHIFT	1	
2#	3231	SPACER	1	
3#	1615	CRANK LEVER	1	
4#	1733	HARDENED WASHER	1	
5#	1616	SHOULDER BOLT	1	
6+	2620	SCREW, BHC 10 – 24 X 5/8	4	
7	10114	WASHER, EXT. SHKP, #8	4	
8#	2621	FITTING GREASE	1	
9#	1162 A	CAP, GREASE ZERK/2	1	
10	4014	SCREW, 2–3/16 P-K TYPE U-DRIVE	2	
11	2300	DECAL, AL PITCH, RH .....	1	RIGHT-SIDE ONLY
12#	1528	SCREW, SHSS 1/4–20 X 5/16"	2	
13#	0185	SCREW, SHSS 3/8–16 X 3/8"	1	
14+	2649	COVER, PITCH CONT HOUSING	1	
15+	1579	SCREW, HHC 1/4–20 X 1/2	1	
16+	0181 B	WASHER, LOCK, 1/4 MED	4	
17+	0948	WASHER, FLAT, 1/4 SAE	1	
18+	1530	GEAR, SLAVE, TPC	1	
19+	1733	WASHER, 1/32 X 1/2 HARDENED	8	
20+	1529	GEAR, MASTER, TPC	1	
21+	0161 C	WASHER, LOCK 5/16 MED	1	
22+	0655	SCREW, HHC 5/16 –18 X 3/4	1	
23+	10546	HOUSING, PITCH CONTROL, 1–3/4	1	
24+	2621	ZERK, GREASE STR 1/4–28	1	
25+	1162 A	CAP, GREASE ZERK	1	
26	1617	LEVER ASSY, TROWEL ADJUSTMENT .....	1	INCLUDES ITEMS W/#
27	2737	KNOB, KIT .....	1	INCLUDES ITEMS W/\$
28	2332	DECAL, AL PITCH, LH .....	1	LEFT SIDE ONLY
29	12386	TOWER ASSEMBLY, LEFT TPC .....	1	INCLUDES ITEMS W/+
29	12385	TOWER ASSEMBLY, RIGHT TPC .....	1	INCLUDES ITEMS W/%
30+	10512	RING, SNAP, TRUARC 5160 – 75	1	
31+	2170	BEARING, RACE, TORR #TRA 1220	3	
32+	1604	BEARING, BALL THRUST	1	
33+	1612	BEARING, ALUM – PITCH CONTR	1	
34+	2169	BEARING, THRUST, TORR #NTA 1220	1	
35+	2367	SET COLLAR .....	1	INCLUDES ITEM W/■
36+	0685	SCREW, SHS 5/16 - 18 X 5/16	1	
37+	0126	KEY, WOODRUFF #9	1	
38+	10511	SHAFT, PITCH CONTROL, LH TPC .....	1	LEFT SIDE ONLY
39%	10510	SHAFT, PITCH CONTROL, RH TPC .....	1	RIGHT SIDE ONLY
40+	1733	WASHER, 1/32 X 1/2 HARDENED	4	
41+	2007	SHAFT	1	
42+	1578	KEY, WOODRUFF, #3	1	
43+	11654	PIN, ROLL 1/8 X 1 PLATED	1	
44+	2311	SPACER, 3/4 X 1/2 X 0.8L	1	
45+	11583	U-JOINT, PITCH CONTROL	1	
46+	1586	PIN, ROLL 1/8 X 3/4	1	
47+	12365	SHAFT, PITCH CONTROL	1	
48+	10722	SLIDE BLOCK, LH PITCH CONTROL .....	1	LEFT SIDE ONLY
49 %	10721	SLIDE BLOCK, RH PITCH CONTROL .....	1	RIGHT SIDE ONLY
50+	10382	BOLT, SHOULDER 3/8 X 3/8 LONG	1	
51+	10723	PIN, SPIROL 3/16 X 1 3/8 HD	1	
52+	12460	CABLE, PITCH ASSEMBLY	1	
53+	1116	NUT, BRASS JAM 5/16 –18	2	

**NOTE:** INDICATED QUANTITIES ARE FOR ONE PITCH TOWER. IF ORDERING FOR TWO PITCH TOWERS DOUBLE QUANTITY.

# HTN/HTO-31V — TWIN PITCH AND MITER BOX ASSY. (LEFT/RIGHT)

## TWIN PITCH MITER BOX ASSY. (LEFT/RIGHT)



# HTN/HTO-31V — TWIN PITCH AND MITER BOX ASSY. (LEFT/RIGHT)

## TWIN PITCH MITER BOX ASSY. (LEFT/RIGHT)

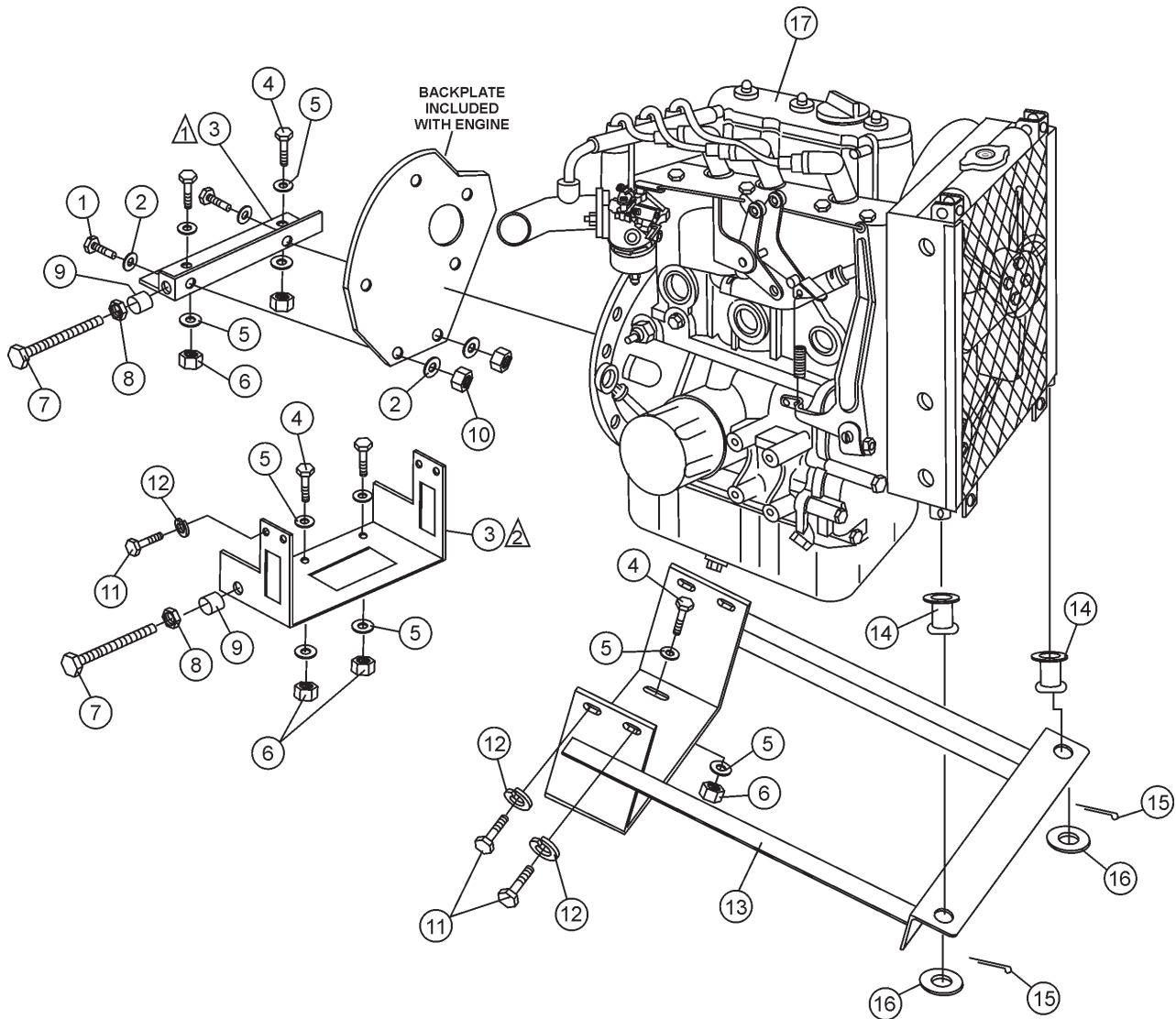
<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1*	0181 B	WASHER, LOCK, 1/4 MED	10	
2*	11583	U-JOINT, PITCH CONTROL	1	
3*	1162 A	CAP, GREASE ZERK	1	
4	10548	TUBE, PITCH CONTROL	1	
5*	11654	PIN, ROLL 1/8 X 1"	3	
6*	1578	KEY, WOODRUFF, #3	6	
7*	1733	WASHER, 1/32 X 1/2 HARDENED	6	
8	2012	SLEEVE, ADJ – LONG, RIDER	1	
9	2156	SPRING, COIL	1	
10*	2621	ZERK, GREASE STR 1/4 – 28	1	
11	0202	SCREW, HHC 5/16 –18 X 1	4	
12	0300 B	WASHER, FLAT, 5/16 SAE	4	
13*	0730	SCREW, HHC 1/4 –20 X 1	8	
14*	11653	SLEEVE, W/U-JOINT	1	
15*	1577	SET COLLAR, 1/2	1	
16*	1987	MITER BOX, PITCH CONTROL	1	
17*	1988	MITER BOX, BEARING CAP RIDERS	1	
18*	2021	SHAFT, MITER VERTICAL	1	
19*	2022	SHAFT, MITER	2	
20*	2062	GEAR, MITER	1	
21*	2845	SHAFT, MITER BOX HORIZ, (HTN)	1	
21*	2049	SHAFT, MITER BOX HORIZ, (HTO)	1	
22*	4514	SCREW, HHC 1/4 –20 X 5/8	4	
23	5283	NUT, NYLOC 5/16 –18	4	
24	11655	MITER BOX ASSEMBLY, (HTN) .....	1	INCLUDES ITEMS W/*
24	12456	MITER BOX ASSEMBLY, (HTO) .....	1	INCLUDES ITEMS W/*

**NOTE:**

Indicated quantities are for one pitch tower. If ordering for two pitch towers, double the quantity unless otherwise noted.

# HTN/HTO 31V — ENGINE MOUNTING BRACKETS ASSY.

## ENGINE MOUNTING BRACKETS ASSY.



### NOTES:

▲ MOUNT REAR LEFT P/N 12458  
S/N CC0202199 AND BELOW

▲ BRACKET ENGINE MOUNT P/N 21628  
S/N CC0202200 AND ABOVE

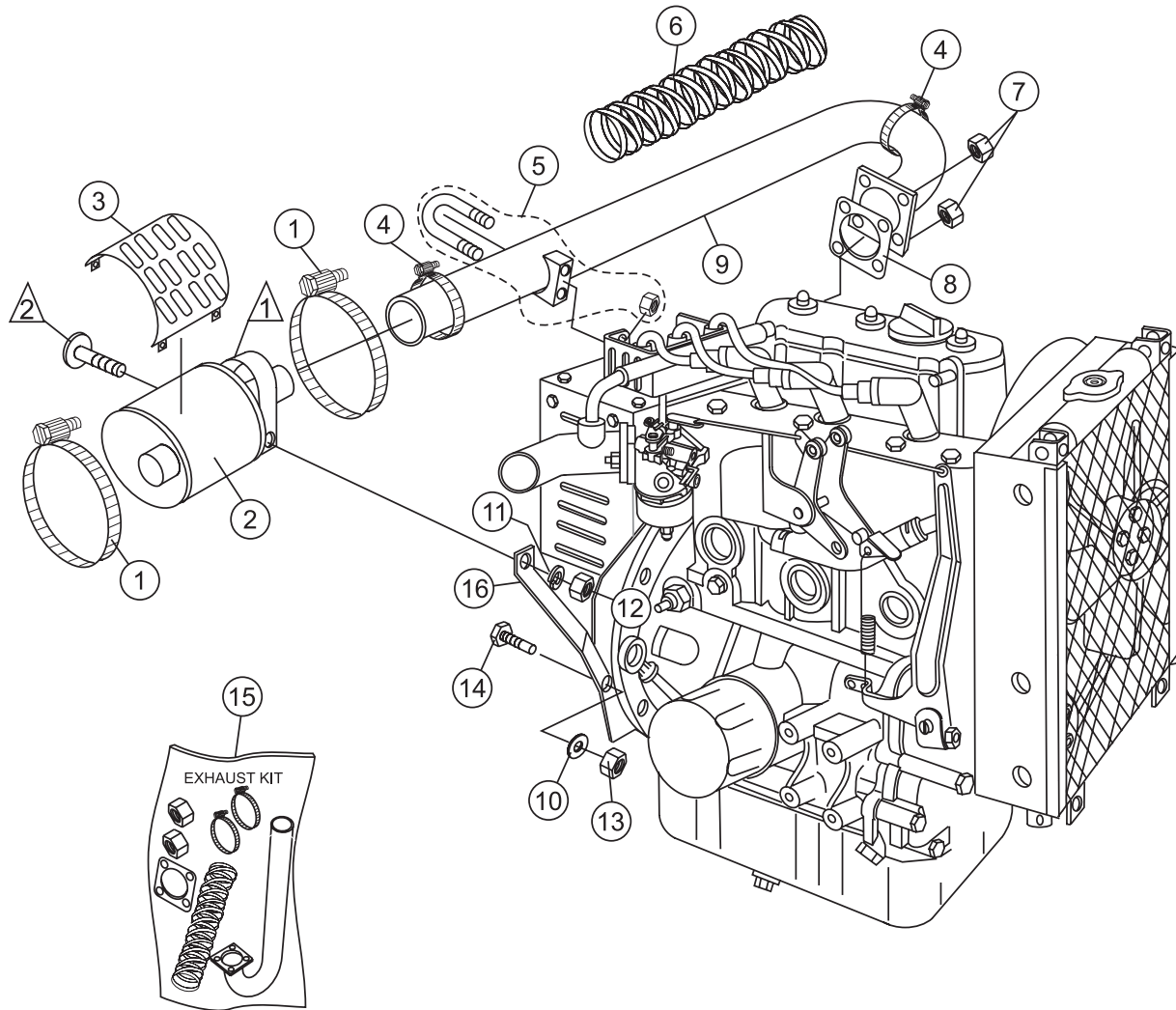
## HTN/HTO 31V — ENGINE MOUNTING BRACKETS ASSY.

### ENGINE MOUNTING BRACKETS 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	0300 B	WASHER, FLAT, 5/16 SAE	4	
3	21628	BRACKET, ENGINE MOUNT LEFT .....	1	S/N CC0202200 AND ABOVE
4	1023	SCREW, HHC 3/8-16 X 1 1/4	4	
5	10136	WASHER, FLAT, 3/8 SAE	8	
6	10133	NUT, NYLOC 3/8-16	4	
7	11155	SCREW, HHC, FT, 5/16-24 X 4"	1	
8	6014 C	NUT, HEX FINISH 5/16-24	1	
9	11153	CAP, ENGINE ADJUST BOLT	1	
10	5283	NUT, NYLOC 5/16-18	2	
11	2866	SCREW, HHC M8 1.25 X 20 MM GR 8.8	8	
12	0161 C	WASHER, LOCK, 5/16 MED.	8	
13	11753	MOUNT, ENGINE FRONT W/A (RIGHT)	1	
14	19468	GROMMET, MINOR PN Z-4004	2	
15	0183	PIN, COTTER 1/8D X 1-1/4	2	
16	0447	WASHER, FLAT SAE1/2	2	
17	11292	ENGINE, BRIGGS 31 HP,DM950G	1	

# HTN/HTO 31V — MUFFLER ASSY. S/NCC020199 AND BELOW

MUFFLER ASSEMBLY S/NCC0202199 AND BELOW



## NOTES:

- ① CLAMP IS PART OF MUFFLER.
- ② INCLUDED WITH MUFFLER CLAMP

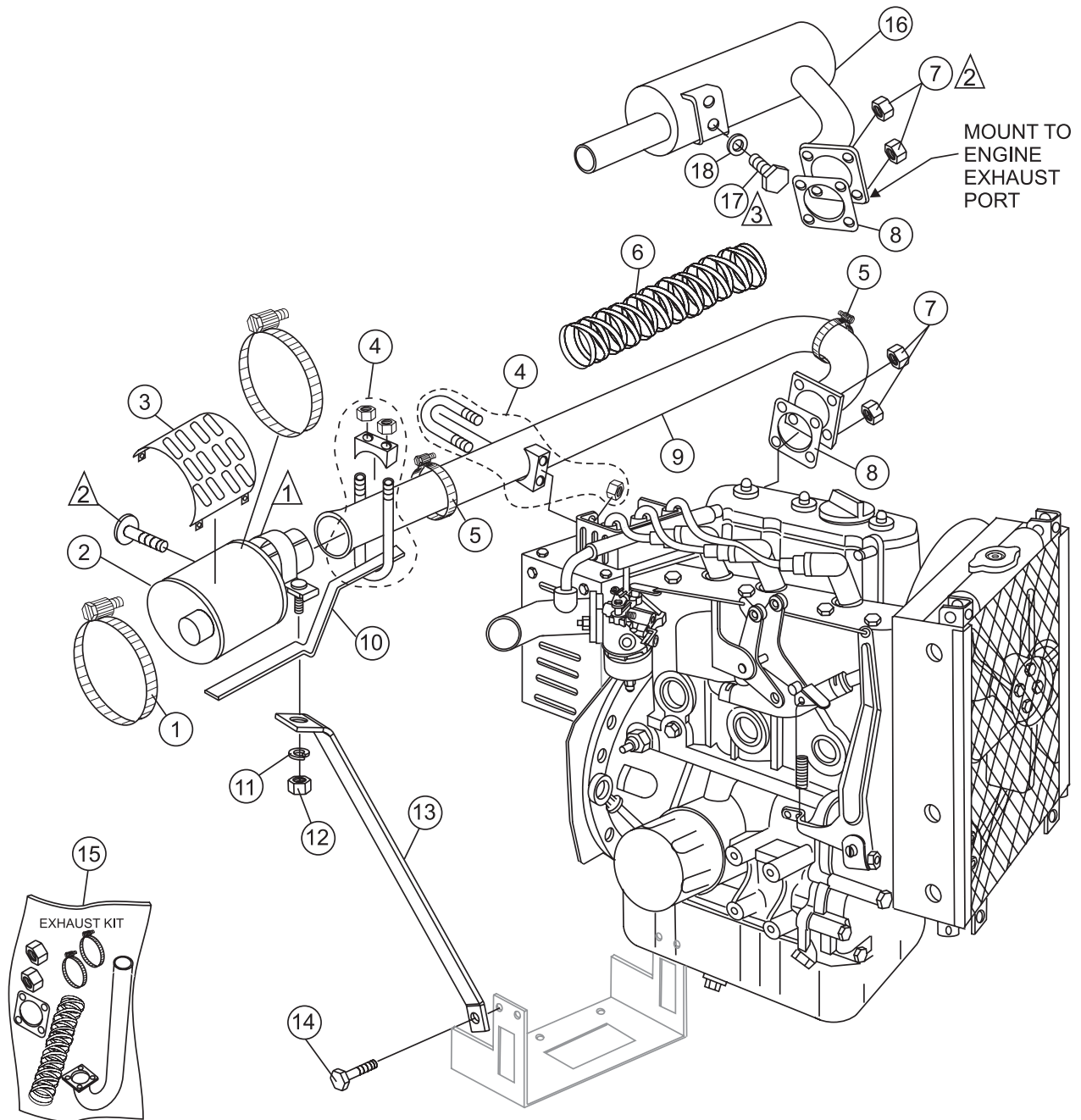
# HTN/HTO 31V — MUFFLER ASSY. S/NCC020199 AND BELOW

## MUFFLER ASSEMBLY S/NCC0202199 AND BELOW

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	10463	CLAMP, 7" HOSE, SIZE 104	2	
2	10208	MUFFLER W/ CLAMP	1	
3	12194	HEAT SHIELD W/A, MUFFLER	1	
4%	10434	CLAMP, 2" HOSE	2	
5	10855	CLAMP, 1-1/2 MUFFLER	1	
6%	60025	TAPE, 1/8 X 2 FIBERGLASS HI TEMP .....	13 FT. ....	SOLD BY THE FOOT. 13 FT. REQD.
7%	12848	EXHAUST FLANGE NUT	4	
8%	12847	EXHAUST GASKET	1	
9%	12781	EXHAUST W/A	1	
10	0300 B	WASHER, FLAT, 5/16 SAE	1	
11	0161 C	WASHER, LOCK, 5/16 MED.	1	
12	1456	NUT, HEX FINISH 3/8-16	1	
13	5283	NUT, NYLOC 5/16-18	1	
14	0202	SCREW, HHC 5/16-18 X 1	1	
15	12849	EXHAUST KIT .....	1 .....	INCLUDES ITEMS W/%
16	12226	BRACKET MUFFLER SUPPORT	1	

# HTN/HTO 31V — MUFFLER ASSY. S/NCC020200 AND ABOVE

MUFFLER ASSEMBLY S/NCC0202200 AND ABOVE



## NOTES:

- ① CLAMP AND BOLT ARE PART OF MUFFLER.
- ② TORQUE TO 15 LB-FT.
- ③ TORQUE TO 15 LB-FT. APPLY BLUE LOCTITE 246 P/N 60097.

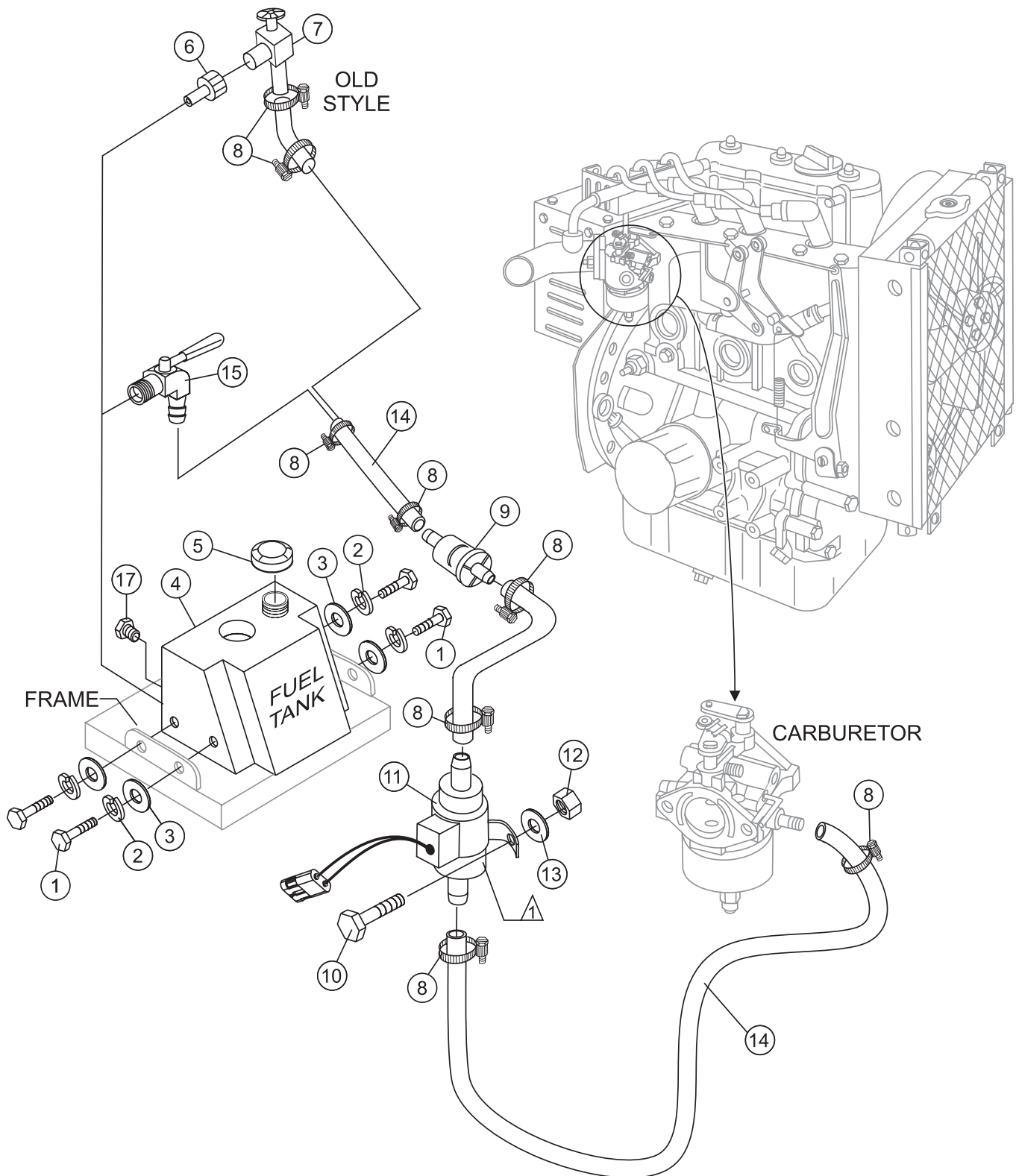
# HTN/HTO 31V — MUFFLER ASSY. S/NCC020200 AND ABOVE

## MUFFLER ASSEMBLY S/NCC0202200 AND ABOVE

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	10463	CLAMP, 7" HOSE, SIZE 104 .....	2 .....	MARCH 27, 2007 AND BELOW
2	10208	MUFFLER W/ CLAMP .....	1 .....	MARCH 27, 2007 AND BELOW
3	12194	HEAT SHIELD W/A, MUFFLER .....	1 .....	MARCH 27, 2007 AND BELOW
4	10855	CLAMP, 1-1/2 MUFFLER .....	1 .....	MARCH 27, 2007 AND BELOW
5%	10434	CLAMP, 2" HOSE .....	2 .....	MARCH 27, 2007 AND BELOW
6%	60025	TAPE, 1/8 X 2 FIBERGLASS HI TEMP .....	13 FT. ....	SOLD BY THE FOOT. 13 FT. REQ. ..... MARCH 27, 2007 AND BELOW
7%	12848	EXHAUST FLANGE NUT	4	
8%	12847	EXHAUST GASKET	1	
9%	12781	EXHAUST W/A .....	1 .....	MARCH 27, 2007 AND BELOW
10	12917	BRACKET, MUFFLER SUPPORT .....	1 .....	MARCH 27, 2007 AND BELOW
11	0161 C	WASHER, LOCK, 5/16 MED. ....	1 .....	MARCH 27, 2007 AND BELOW
12	1456	NUT, HEX FINISH 3/8-16 .....	1 .....	MARCH 27, 2007 AND BELOW
13	21629	BRACKET, MUFFLER SUPPORT .....	1 .....	MARCH 27, 2007 AND BELOW
14	1605	SCREW, HHC M8-1.25 X 25mm .....	1 .....	MARCH 27, 2007 AND BELOW
15	12849	EXHAUST KIT .....	1 .....	INCLUDES ITEMS W/% ..... MARCH 27, 2007 AND BELOW
16	20908	MUFFLER .....	1 .....	MARCH 28, 2007 AND ABOVE
17	0655	SCREW, HHC 5/16-18 X 3/4	2	
18	0300 B	WASHER, FLAT 5/16 SAE	2	

# HTN/HTO 31V — FUEL TANK ASSY.

## FUEL TANK ASSY.



### NOTES:

SECURE TO BATTERY BOX.

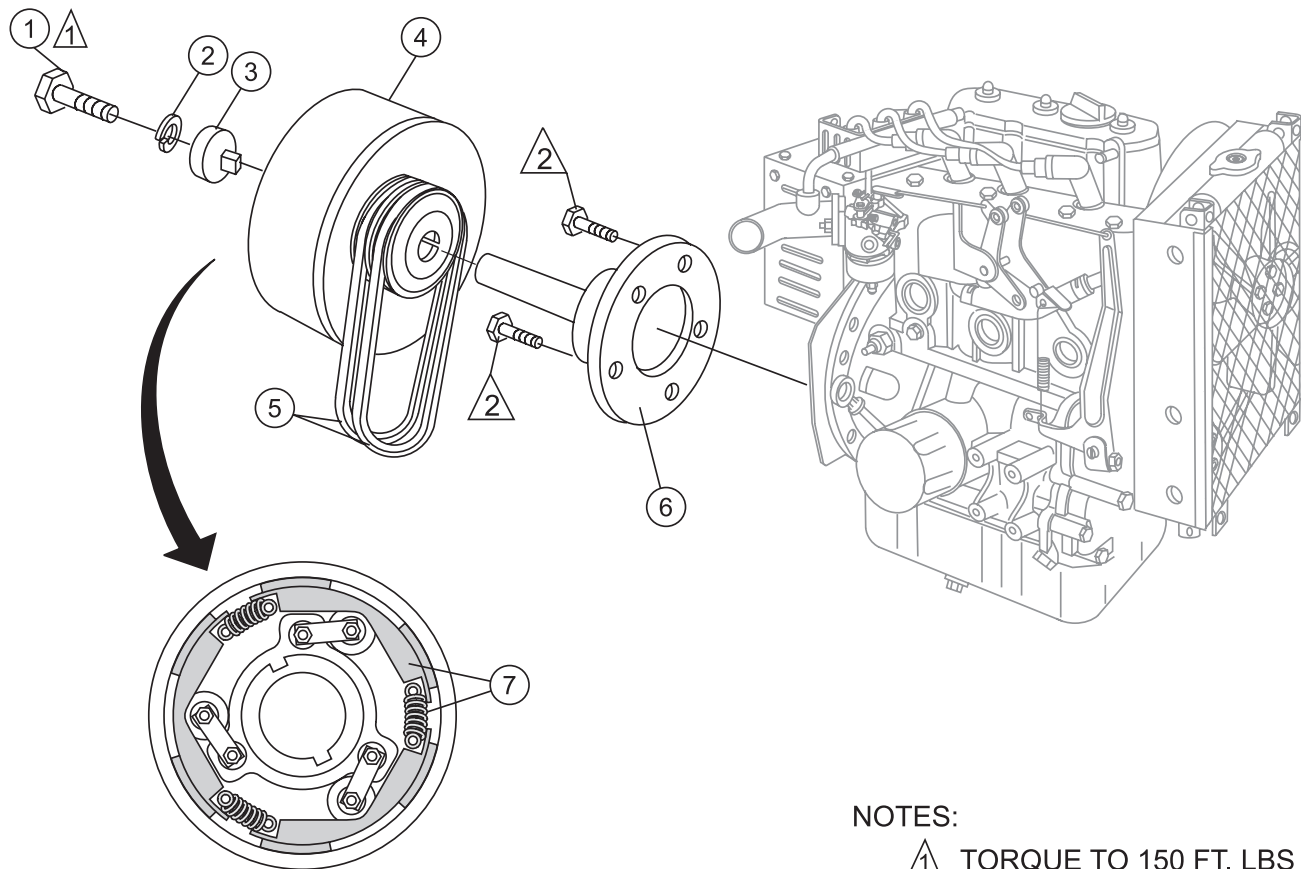
# HTN/HTO 31V — FUEL TANK ASSY.

## FUEL TANK 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	
2	0181 B	WASHER, LOCK, 1/4 MED.	6	
3	0948	WASHER, FLAT, 1/4 SAE	8	
4	12404	TANK, HTO/N 5 GAL., PLASTIC .....	1 .....	MARCH 14, 2007 AND BELOW
4	12404	TANK, FUEL, STEEL .....	1 .....	MARCH 15, 2007 AND ABOVE
5	11418	FUEL CAP/GAUGE (10.5"), PLASTIC TANK ....	1 .....	MARCH 14, 2007 AND BELOW
5	29509	FUEL CAP/GAUGE, STEEL TANK .....	1 .....	MARCH 15, 2007 AND ABOVE
6	19633	BUSHING, RUBBER FUEL DAPCO10672 .....	1 .....	MARCH 14, 2007 AND BELOW
7	19661	VALVE, FUEL DRAIN DAPCO 11478 .....	1 .....	MARCH 14, 2007 AND BELOW
8	19473	CLAMP, WORM HOSE, #4 (1/4-5/8) .....	6 .....	DECEMBER 27, 2006 AND BELOW
8	22067	CLAMP, STEPLESS EAR 1/4" .....	6 .....	DECEMBER 28, 2006 AND ABOVE
9	11984	IN-LINE FUEL FILTER 5/16	1	
10	0131 A	SCREW, HHC 1/4-20 X 3/4	2	
11	825232	FUEL PUMP	1	
12	10024	NUT, NYLOC 1/4-20	2	
13	0948	WASHER, FLAT, 1/4 SAE	8	
14	60013	HOSE, .25 ID RUBBER FUEL LINE .....	3 FT .....	SOLD BY THE FOOT. 3 FT. REQD.
15	20795	VALVE SHUTOFF 4MBARB X6SBARB .....	1 .....	JULY 17, 2001~ MAR., 14, 2007
16	22081	VALVE SHUTOFF 1/4 NPT, 1/4 HOSE .....	1 .....	MARCH, 15, 2007 AND ABOVE
17	16185	FITTING, PLUG 1/4" SQ. HD. ....	1 .....	MARCH, 15, 2007 AND ABOVE

# HTN/HTO 31V — CLUTCH ASSY.

## CLUTCH ASSY.



### NOTES:

TORQUE TO 150 FT. LBS

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

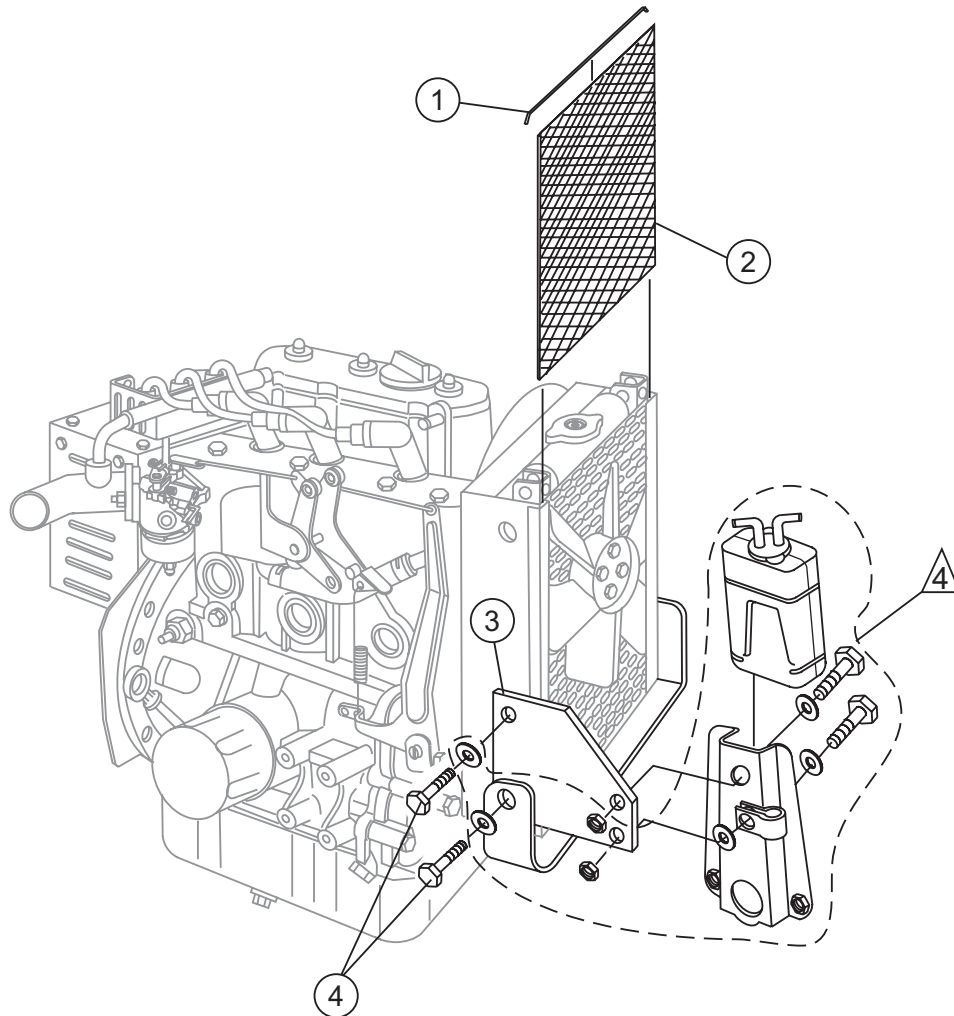
## HTN/HTO 31V — CLUTCH ASSY.

### CLUTCH ASSY.


<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12417	SCREW, HHC 5/8-18 X 2	1	
2	4703	WASHER, LOCK, 5/8 MED.	1	
3	12188	RETAINER, 1-7/16 BLM CLUTCH	1	
4	11994	CLUTCH, F74H-3080 X 1-7/16"	1	
5	10937	BELT, B37 GATES HP 11	2	
6	11758	ADAPTOR, CLUTCH, 31HP.VANGUARD	1	
7	12463	SHOES/SPRINGS KIT	1	

# HTN/HTO 31V — RADIATOR GUARD/OVERFLOW BRACKET ASSY.

RADIATOR GUARD/OVERFLOW BRACKET ASSY.



## NOTES:

-  ITEMS WITHIN DASHED LINE  
ARE INCLUDED WITH ENGINE.  
REFER TO ENGINE PARTS MANUAL.

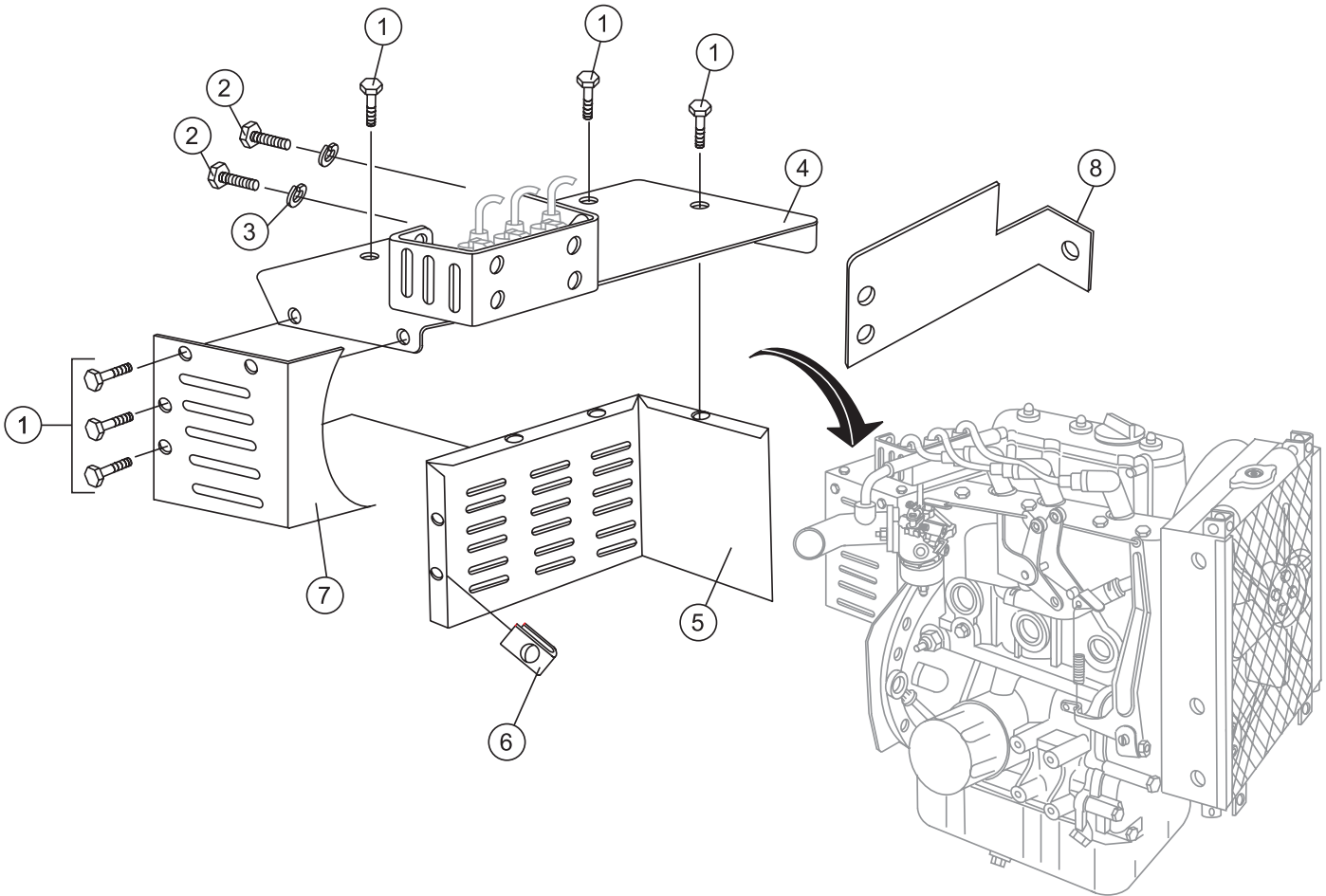
## HTN/HTO 31V — RADIATOR GUARD/OVERFLOW BRACKET ASSY.

RADIATOR GUARD/OVERFLOW BRACKET ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	60049	TRIM EDGE, 1/32 (62B3-1/32)	1.5 FT	
2	12450	GUARD, RADIATOR (31 VAN)	1	
3	11900	MOUNT, RADIATOR OVERFLOW	1	
4	12464	SCREW, HHC M6-1.0 X 16mm	3	

# HTN/HTO 31V — V-BELT GUARD ASSY.

V-BELT GUARD ASSY.



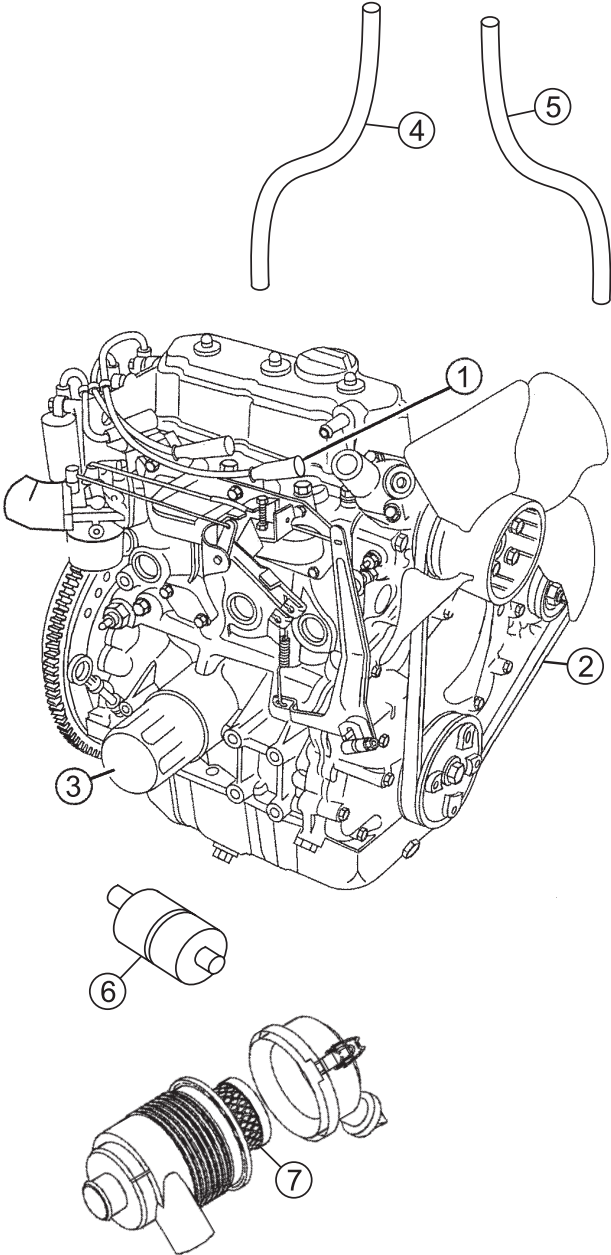
## HTN/HTO 31V — V-BELT GUARD ASSY.

### V-BELT GUARD ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11819	SCREW, HHC 1/4-20 X 3/4 W/WASH	7	
2	1605	SCREW, HHC M8-1.25 X 25mm	4	
3	0161 C	WASHER, LOCK, 5/16 MED.	4	
4	12542	BELT GUARD/MUFFLER SPPT W/A .....	1 .....	MARCH 27, 2007 AND BELOW
4	21036	BELT GUARD/MUFFLER SPPT W/A .....	1 .....	MARCH 28, 2007 AND ABOVE
5	12545	PLATE, BELT GUARD SIDE .....	1 .....	MARCH 27, 2007 AND BELOW
5	21190	PLATE, BELT GUARD SIDE .....	1 .....	MARCH 28, 2007 AND ABOVE
6	11534	NUT, "U" TYPE, 1/4-20	7	
7	12544	PLATE, BELT GUARD REAR .....	1 .....	MARCH 16, 2004 AND BELOW
7	21633	PANEL, BELT GUARD REAR .....	1 .....	MARCH 17, 2004 TO MARCH 27, 2007
7	21197	PANEL, BELT GUARD REAR .....	1 .....	MARCH 28, 2007 AND ABOVE
8	20178	MUFFLER HEAT SHIELD .....	1 .....	MARCH 28, 2007 AND ABOVE

# HTN/HTO 31V — ENGINE SERVICE PARTS

## ENGINE SERVICE PARTS



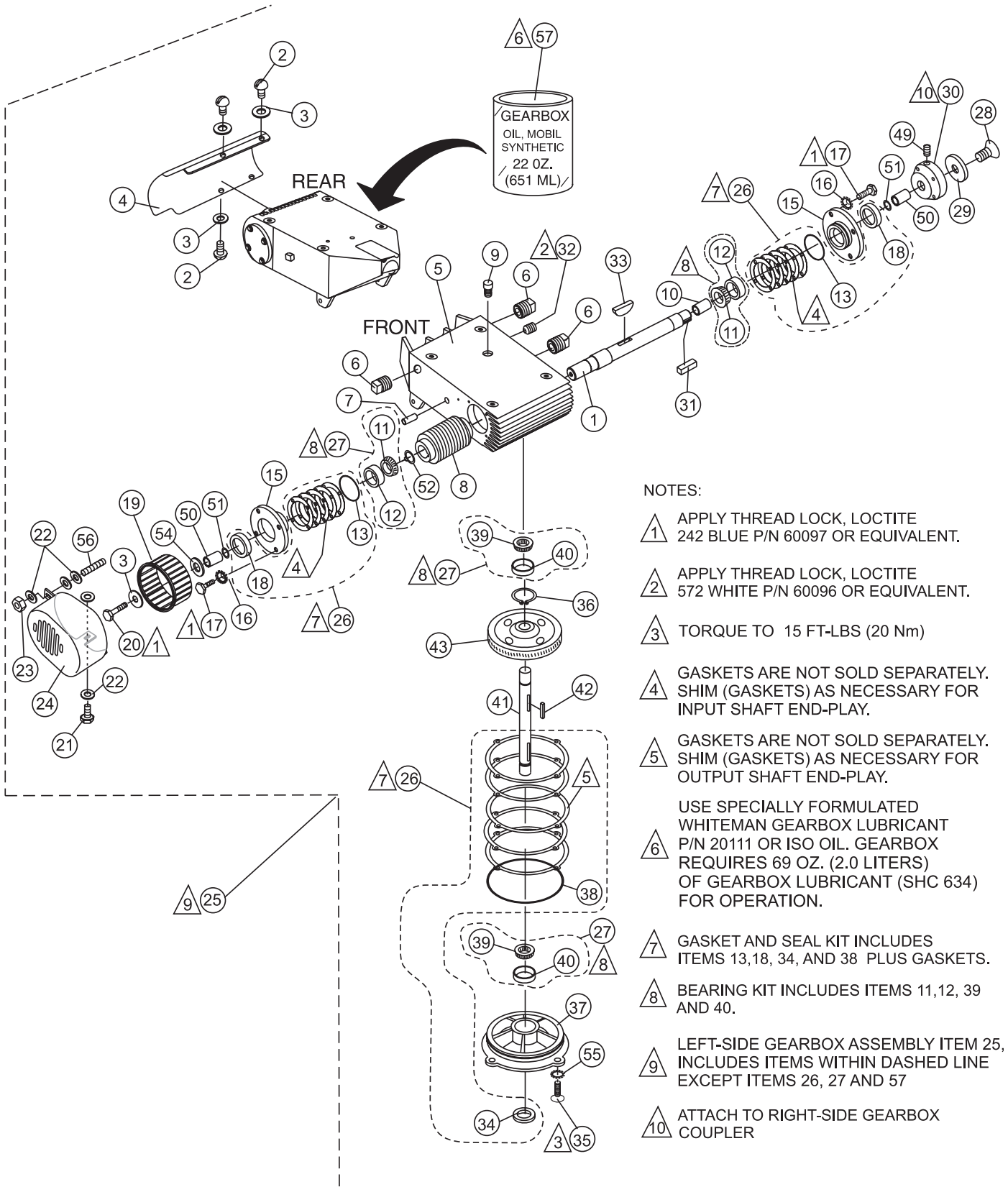
## HTN/HTO 31V — ENGINE SERVICE PARTS

### ENGINE SERVICE PARTS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	496018S	SPARK PLUG	1	
2	821075	FAN BELT	1	
3	491056	OIL FILTER	1	
4	825557	HOSE	1	
5	825133	HOSE	1	
6	820026	FUEL FILTER	1	
7	820263	ELEMENT, AIR CLEANER	1	

# HTN/HTO-31V — GEARBOX ASSY. (LEFT-SIDE)

## GEARBOX ASSY (LEFT-SIDE)



### NOTES:

- ▲ 1 APPLY THREAD LOCK, LOCTITE 242 BLUE P/N 60097 OR EQUIVALENT.
- ▲ 2 APPLY THREAD LOCK, LOCTITE 572 WHITE P/N 60096 OR EQUIVALENT.
- ▲ 3 TORQUE TO 15 FT-LBS (20 Nm)
- ▲ 4 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR INPUT SHAFT END-PLAY.
- ▲ 5 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR OUTPUT SHAFT END-PLAY.
- USE SPECIALLY FORMULATED WHITEMAN GEARBOX LUBRICANT P/N 20111 OR ISO OIL. GEARBOX REQUIRES 69 OZ. (2.0 LITERS) OF GEARBOX LUBRICANT (SHC 634) FOR OPERATION.
- ▲ 6
- ▲ 7 GASKET AND SEAL KIT INCLUDES ITEMS 13, 18, 34, AND 38 PLUS GASKETS.
- ▲ 8 BEARING KIT INCLUDES ITEMS 11, 12, 39 AND 40.
- ▲ 9 LEFT-SIDE GEARBOX ASSEMBLY ITEM 25, INCLUDES ITEMS WITHIN DASHED LINE EXCEPT ITEMS 26, 27 AND 57
- ▲ 10 ATTACH TO RIGHT-SIDE GEARBOX COUPLER

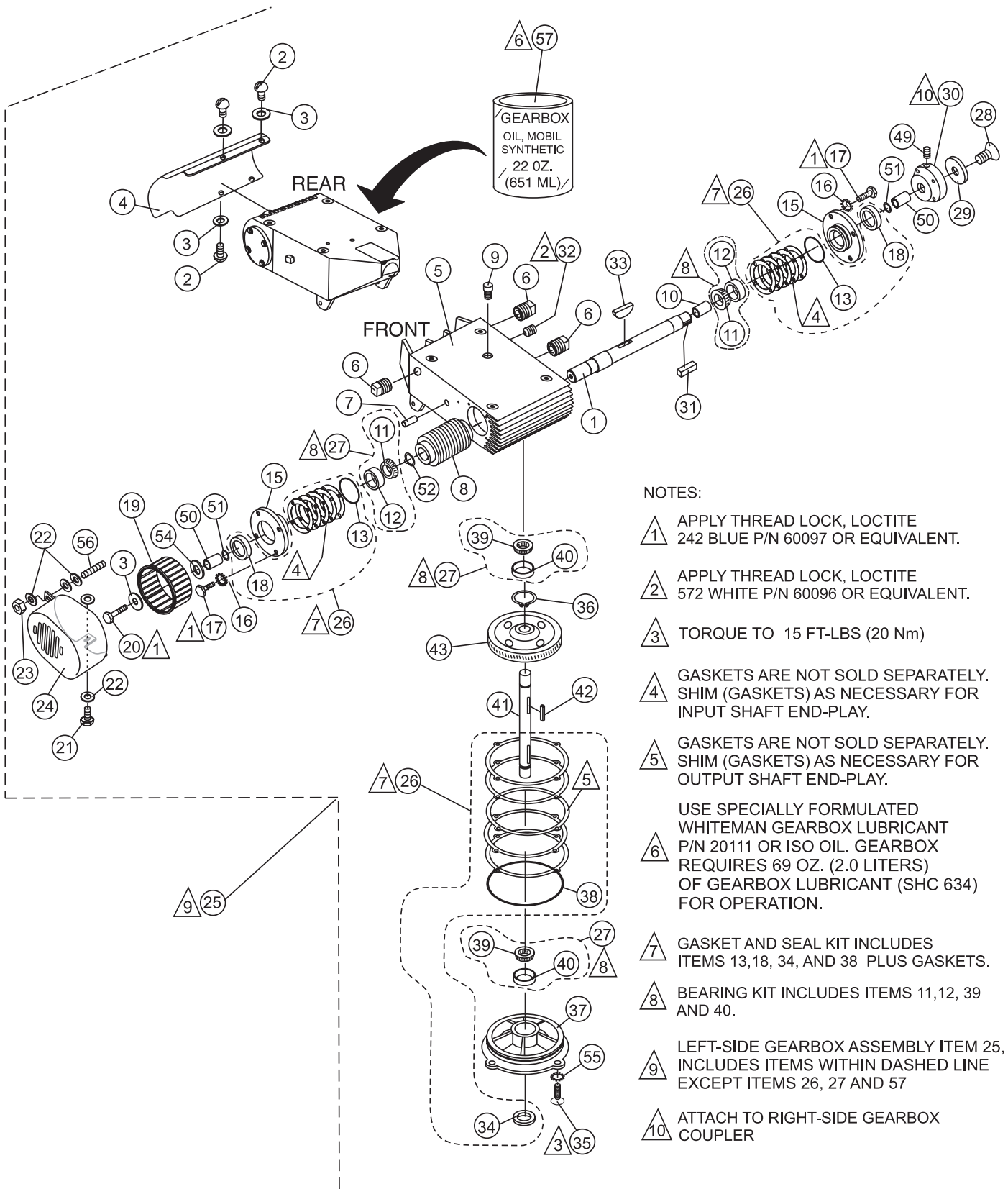
# HTN/HTO-31 V— GEARBOX ASSY. (LEFT-SIDE)

## GEARBOX ASSY (LEFT-SIDE)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1%	12586	SHAFT, GEARBOX INPUT W/FAN .....	1 .....	OCT. 07, 1999 AND BELOW
1%	12906	SHAFT, GEARBOX INPUT W/FAN .....	1 .....	OCT. 08, 1999 AND ABOVE
2%	5031 A	SCREW, RHM 1/4-20 X1/2	4	
3%	0948	WASHER, FLAT, 1/4 SAE .....	1 .....	OCT. 07, 1999 AND BELOW
3%	0948	WASHER, FLAT, 1/4 SAE .....	5 .....	OCT. 08, 1999 AND ABOVE
4%	12982	SHROUD, GB FIN COVER, LEFT	1	
5%	12765	GEAR BOX HD RIDER 1-1/4 SHAFT .....	1 .....	HOUSING ONLY
6%	0121 A	FITTING, PLUG 3/8MP SQUARE HEAD	3	
7%	10989	STUD, N10 - 32 X 3/4	1	
8%	1993	LEFT HAND WORM .....	1 .....	OCT. 07, 1999 AND BELOW
8%	12907	LEFT HAND WORM .....	1 .....	OCT. 08, 1999 AND ABOVE
9%	1132	VENT, AIR	1	
10%	12583	SPACER, 1.380D X 1.015 X 1.168L	1	
11*%	9045	BEARING, CONE TIMKEN #1986	2	
12*%	0232 A	BEARING, CUP, TIMKEN #1932	2	
13+%	2309	O-RING, 2 -13/16" VINTON	2	
15%	2307	FLANGE, COUNTERSHAFT	2	
16%	0133 W	WASHER, FLAT 9/16 COPPER .....	8 .....	OCT. 17, 2000 AND BELOW
16%	10031	WASHER, EXT SHKP 1/4 .....	8 .....	OCT. 18, 2000 AND ABOVE
17%	0730	SCREW, HHC 1/4-20 X 1 .....	8 .....	OCT. 17, 2000 AND BELOW
17%	2295	SCREW, HHC 1/4-20 X 7/8 .....	8 .....	OCT. 18, 2000 AND ABOVE
18%+	9044	SEAL, OIL, NATIONAL #471413 .....	2 .....	OCT. 07, 1999 AND BELOW
18%+	12909	SEAL, OIL, NATIONAL #471689V .....	2 .....	OCT. 08, 1999 AND ABOVE
19%	10922	FAN, LEFT (CCW)	1	
20%	0424	SCREW, HHC 1/4-X0 X 1-1/4 .....	1 .....	DEC. 26, 2001 AND BELOW
20%	0730	SCREW, HHC 1/4-20 X 1 .....	1 .....	DEC. 27, 2001 AND ABOVE
21%	19477	SCREW, HHC, WASHER 10-32 X 1/2	1	
22%	2203	WASHER, FLAT #10 SAE	4	
23%	10019	NUT, NYLOC 10-32	1	
24%	10893	LEFT-SIDE FAN COVER	1	
25	12789	GEAR BOX ASSY., COMPLETE LEFT-SIDE .....	1 .....	INCLUDES ITEMS W/%

# HTN/HTO-31V — GEARBOX ASSY. (LEFT-SIDE)

## GEARBOX ASSY (LEFT-SIDE)



### NOTES:

- ▲ 1 APPLY THREAD LOCK, LOCTITE 242 BLUE P/N 60097 OR EQUIVALENT.
- ▲ 2 APPLY THREAD LOCK, LOCTITE 572 WHITE P/N 60096 OR EQUIVALENT.
- ▲ 3 TORQUE TO 15 FT-LBS (20 Nm)
- ▲ 4 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR INPUT SHAFT END-PLAY.
- ▲ 5 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR OUTPUT SHAFT END-PLAY.
- ▲ 6 USE SPECIALLY FORMULATED WHITEMAN GEARBOX LUBRICANT P/N 20111 OR ISO OIL. GEARBOX REQUIRES 69 OZ. (2.0 LITERS) OF GEARBOX LUBRICANT (SHC 634) FOR OPERATION.
- ▲ 7 GASKET AND SEAL KIT INCLUDES ITEMS 13, 18, 34, AND 38 PLUS GASKETS.
- ▲ 8 BEARING KIT INCLUDES ITEMS 11, 12, 39 AND 40.
- ▲ 9 LEFT-SIDE GEARBOX ASSEMBLY ITEM 25, INCLUDES ITEMS WITHIN DASHED LINE EXCEPT ITEMS 26, 27 AND 57
- ▲ 10 ATTACH TO RIGHT-SIDE GEARBOX COUPLER

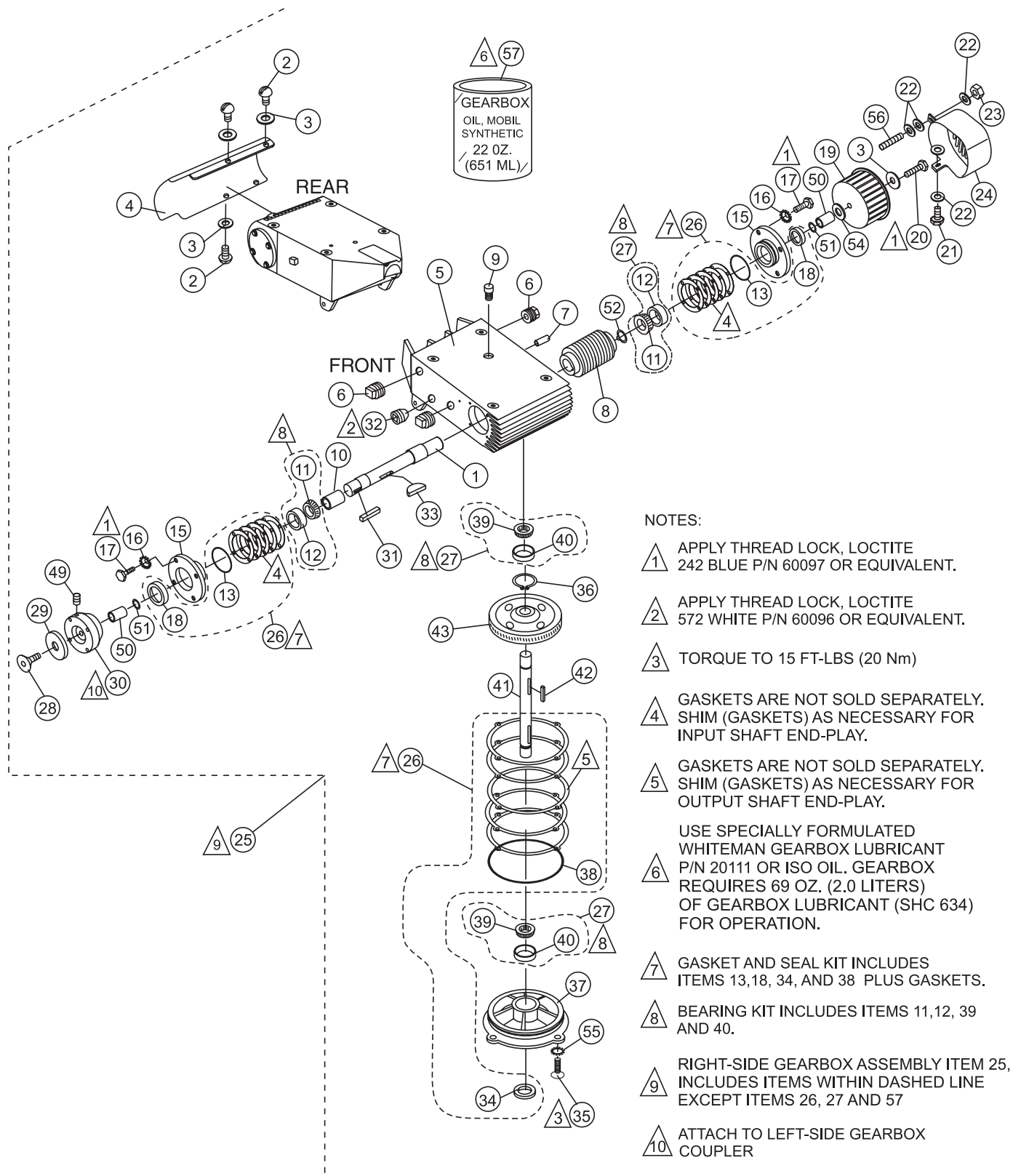
# HTN/HTO-31 V— GEARBOX ASSY. (LEFT-SIDE)

## GEARBOX ASSY (LEFT-SIDE)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
26	2618	GASKET KIT .....	1 .....	INCLUDES ITEMS W/+
27%	12833	BEARING KIT .....	1 .....	INCLUDES ITEMS W/*
28%	1313	SCREW, FHSC 3/8 - 24 X 3/4 PLAIN	1	
29%	9120	RETAINER, DRIVEN PULLEY	1	
30%	2048	COUPLER - 7/8" ID	1	
31%	2323	KEY, 1/4 X1/4 X13/16	1	
32%	10450	SCREW, SHS 10-32 X1/4	1	
33%	1139	KEY, WOODRUFF #21 HARDENED	1	
34+%	9041	SEAL, OIL LIP DUAL VITON TCM BRAND .....	1 .....	JUNE 17, 2002 AND BELOW
34+%	12769	SEAL, 1-1/4 DIA NAT # 471766V .....	1 .....	JUNE 18, 2002 AND ABOVE
35%	1146	SCREW, FHSC 5/16-18 .....	4 .....	JUNE 17, 2002 AND BELOW
35%	20875	SCREW, FHS 5/16 -18 X 3/4 .....	4 .....	JUNE 18, 2002 AND ABOVE
36%	12770	RING, SNAP TRUARC #5100 - 125	1	
37%	12766	COVER, HD GEARBOX 1-1/4 SHAFT	1	
38+%	9038	O-RING, A - 264 VITON	1	
39*%	12768	BEARING, CONE TIMKEN #15126	2	
40*%	12767	BEARING, CUP, TIMKEN #15245	2	
41%	12764	SHAFT, MAIN HD RIDER 1-1/4 SHAFT	1	
42%	9180	KEY, 5/16 X 2 -1/4 HRDND	1	
43%	12771	GEAR, WORM LH. HT 1-1/4	1	
49%	10138	SCREW, SHS 1/4-20 X 1/2, N.P.	1	
50%	9043	SPACER, 1-1/4 X 1 X 1.375L .....	2 .....	UP TO OCT. 07, 1999
51%	2116	O-RING, SIZE -022, BUNA-N .....	2 .....	UP TO OCT. 07, 1999
52%	12582	RING, SNAP TRUARC 5160-98 .....	1 .....	UP TO OCT. 07, 1999
54%	10930	WASHER, FENDER 1/4 X 1-1/4 .....	1 .....	UP TO OCT. 07, 1999
55%	10235	WASHER, C/S EXT. SHKP, 5/16 .....	4 .....	UP TO JUNE 17, 2002
56%	10989	STUD, 10-32 X 3/4	1	
57	20111	OIL, MOBIL SYNTHETIC 22 OZ (651 ML) .....	1 .....	REQUIRES 69 OZ (2.0 LITERS)

# HTN/HTO-31V — GEARBOX ASSY. (RIGHT-SIDE)

## GEARBOX ASSY (RIGHT-SIDE)



### NOTES:

- ▲ 1 APPLY THREAD LOCK, LOCTITE 242 BLUE P/N 60097 OR EQUIVALENT.
- ▲ 2 APPLY THREAD LOCK, LOCTITE 572 WHITE P/N 60096 OR EQUIVALENT.
- ▲ 3 TORQUE TO 15 FT-LBS (20 Nm)
- ▲ 4 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR INPUT SHAFT END-PLAY.
- ▲ 5 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR OUTPUT SHAFT END-PLAY.
- USE SPECIALLY FORMULATED WHITEMAN GEARBOX LUBRICANT P/N 20111 OR ISO OIL. GEARBOX REQUIRES 69 OZ. (2.0 LITERS) OF GEARBOX LUBRICANT (SHC 634) FOR OPERATION.
- ▲ 6
- ▲ 7 GASKET AND SEAL KIT INCLUDES ITEMS 13,18, 34, AND 38 PLUS GASKETS.
- ▲ 8 BEARING KIT INCLUDES ITEMS 11,12, 39 AND 40.
- ▲ 9 RIGHT-SIDE GEARBOX ASSEMBLY ITEM 25, INCLUDES ITEMS WITHIN DASHED LINE EXCEPT ITEMS 26, 27 AND 57
- ▲ 10 ATTACH TO LEFT-SIDE GEARBOX COUPLER

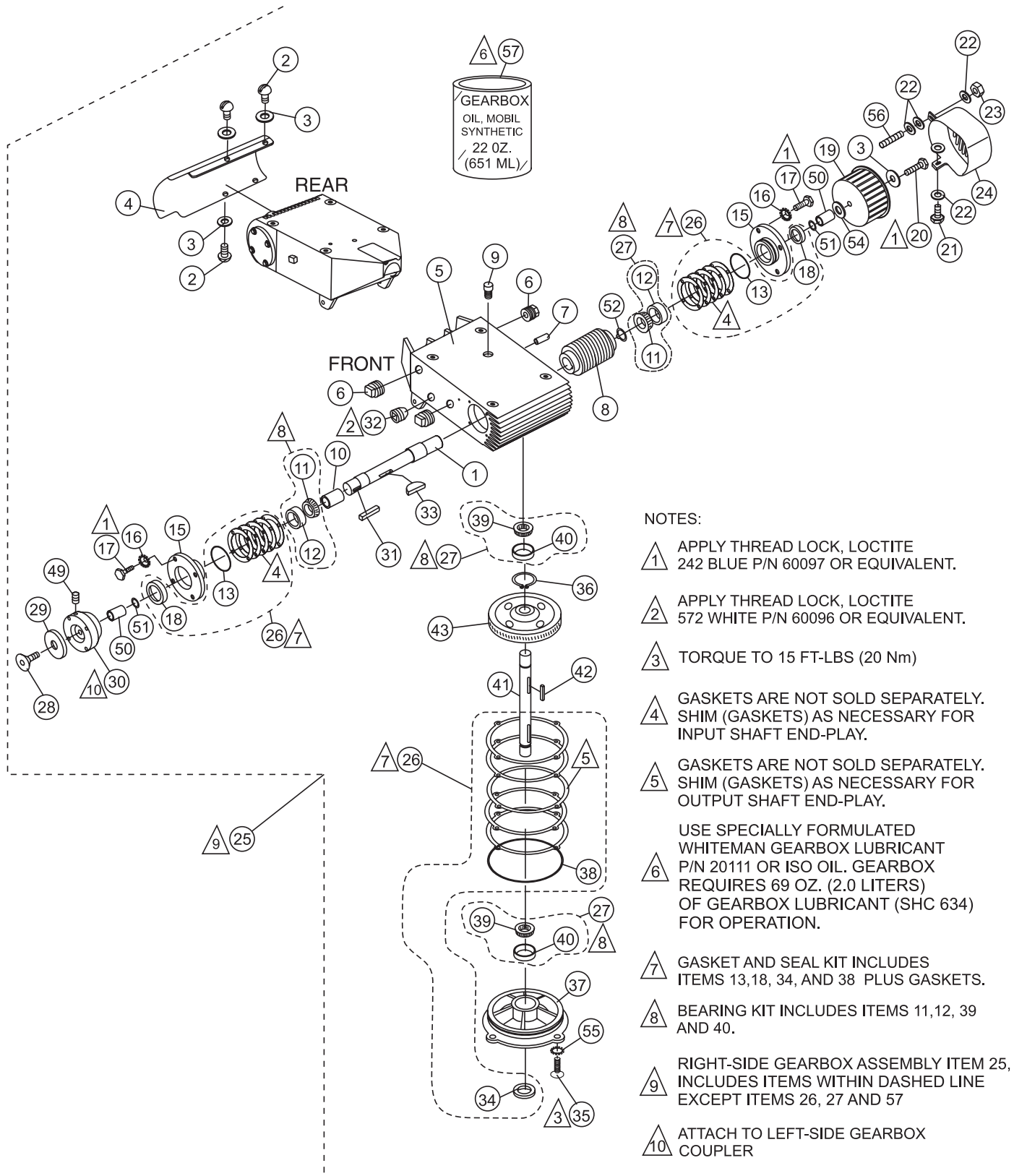
# HTN/HTO-31V — GEARBOX ASSY. (RIGHT-SIDE)

## GEARBOX ASSY (RIGHT-SIDE)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1%	12586	SHAFT, GEARBOX INPUT W/ FAN .....	1 .....	OCT. 07, 1999 AND BELOW
1%	12906	SHAFT, GEARBOX INPUT W/FAN .....	1 .....	OCT. 08, 1999 AND ABOVE
2%	5031 A	SCREW, RHM 1/4-20 X1/2	4	
3%	0948	WASHER, FLAT, 1/4 SAE .....	1 .....	OCT. 07, 1999 AND BELOW
3%	0948	WASHER, FLAT, 1/4 SAE .....	5 .....	OCT. 08, 1999 AND ABOVE
4%	12981	SHROUD, GB FIN COVER, RIGHT	1	
5%	12765	GEAR BOX HD RIDER 1-1/4 SHAFT .....	1 .....	HOUSING ONLY
6%	0121 A	FITTING, PLUG 3/8MP SQUARE HEAD	3	
7%	10989	STUD, N10 - 32 X 3/4	1	
8%	9032	RIGHT HAND WORM .....	1 .....	OCT. 07, 1999 AND BELOW
8%	12908	RIGHT HAND WORM .....	1 .....	OCT. 08, 1999 AND ABOVE
9%	1132	VENT, AIR	1	
10%	12583	SPACER, X 11D X 1.168L	1	
11*%	9045	BEARING, CONE TIMKEN #1986	2	
12*%	0232 A	BEARING, CUP, TIMKEN #1932	2	
13+%	2309	O-RING, 2 -13/16" VINTON	2	
15%	2307	FLANGE, COUNTERSHAFT	2	
16%	0133 W	WASHER, FLAT 9/16 COPPER .....	8 .....	OCT. 17, 2000 AND BELOW
16%	10031	WASHER, EXT SHKP 1/4 .....	8 .....	OCT. 18, 2000 AND ABOVE
17%	0730	SCREW, HHC 1/4-20 X 1 .....	8 .....	OCT. 17, 2000 AND BELOW
17%	2295	SCREW, HHC 1/4-20 X 7/8 .....	8 .....	OCT. 18, 2000 AND ABOVE
18%+	9044	SEAL, OIL, NATIONAL #471413 .....	2 .....	OCT. 07, 1999 AND BELOW
18%+	12909	SEAL, OIL, NATIONAL #471689V .....	2 .....	OCT. 08, 1999 AND ABOVE
19%	10921	FAN, RIGHT (CW)	1	
20%	0424	SCREW, HHC 1/4-20 X 1-1/4 .....	1 .....	DEC. 26, 2001 AND BELOW
20%	0730	SCREW, HHC 1/4-20 X 1 .....	1 .....	DEC. 27, 2001 AND ABOVE
21%	19477	SCREW, HHC, WASHER 10-32 X 1/2	1	
22%	2203	WASHER, FLAT #10 SAE	4	
23%	10019	NUT, NYLOC 10-32	1	
24%	10894	RIGHT-SIDE FAN COVER	1	
25	12788	GEAR BOX ASSY., COMPLETE RIGHT-SIDE .....	1 .....	INCLUDES ITEMS W/%

# HTN/HTO-31V — GEARBOX ASSY. (RIGHT-SIDE)

## GEARBOX ASSY (RIGHT-SIDE)



**NOTES:**

- ▲ 1 APPLY THREAD LOCK, LOCTITE 242 BLUE P/N 60097 OR EQUIVALENT.
- ▲ 2 APPLY THREAD LOCK, LOCTITE 572 WHITE P/N 60096 OR EQUIVALENT.
- ▲ 3 TORQUE TO 15 FT-LBS (20 Nm)
- ▲ 4 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR INPUT SHAFT END-PLAY.
- ▲ 5 GASKETS ARE NOT SOLD SEPARATELY. SHIM (GASKETS) AS NECESSARY FOR OUTPUT SHAFT END-PLAY.
- ▲ 6 USE SPECIALLY FORMULATED WHITEMAN GEARBOX LUBRICANT P/N 20111 OR ISO OIL. GEARBOX REQUIRES 69 OZ. (2.0 LITERS) OF GEARBOX LUBRICANT (SHC 634) FOR OPERATION.
- ▲ 7 GASKET AND SEAL KIT INCLUDES ITEMS 13, 18, 34, AND 38 PLUS GASKETS.
- ▲ 8 BEARING KIT INCLUDES ITEMS 11, 12, 39 AND 40.
- ▲ 9 RIGHT-SIDE GEARBOX ASSEMBLY ITEM 25, INCLUDES ITEMS WITHIN DASHED LINE EXCEPT ITEMS 26, 27 AND 57
- ▲ 10 ATTACH TO LEFT-SIDE GEARBOX COUPLER

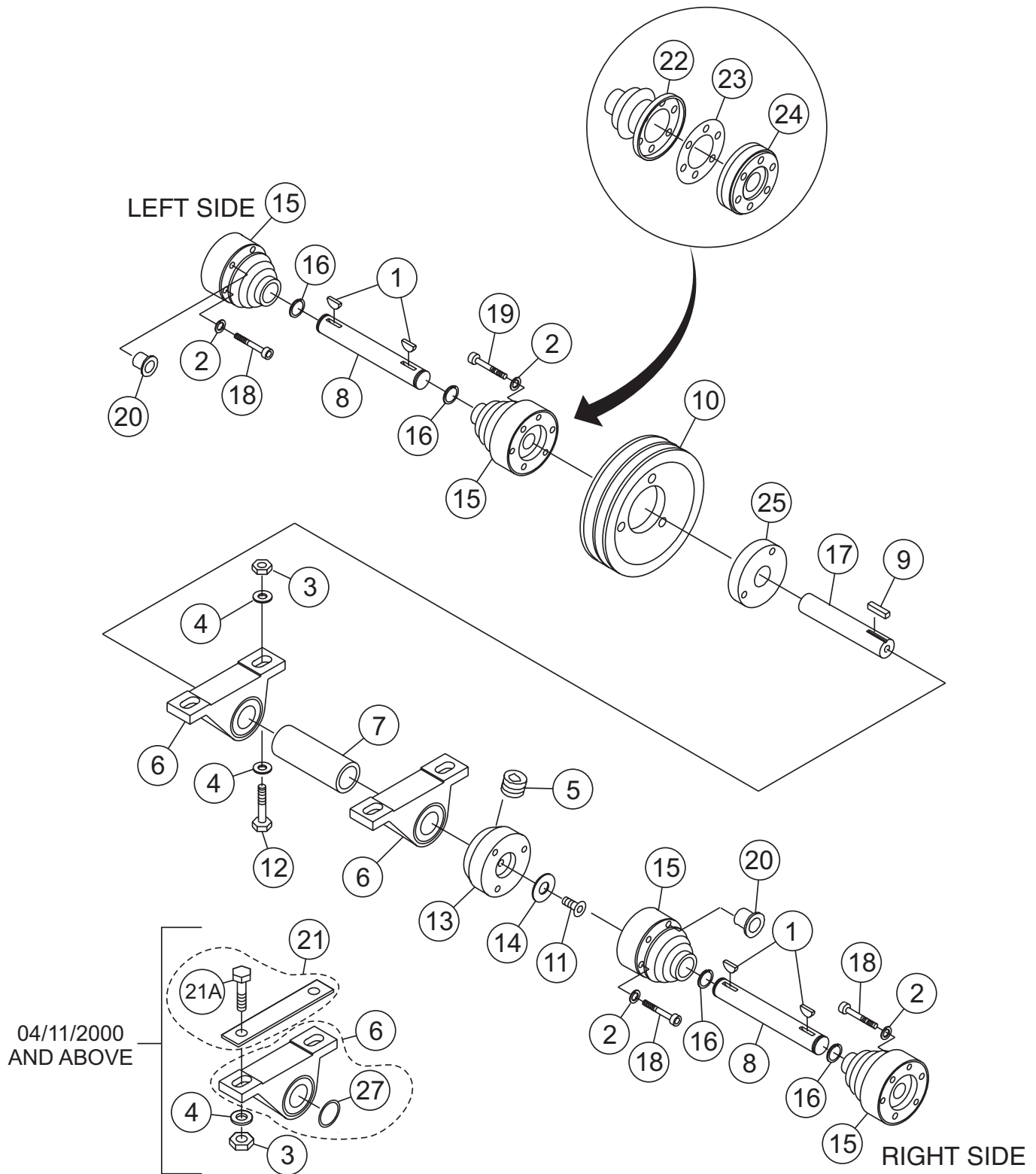
# HTN/HTO-31V — GEARBOX ASSY. (RIGHT-SIDE)

## GEARBOX ASSY (RIGHT-SIDE)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
26	2618	GASKET KIT .....	1	INCLUDES ITEMS W/+
27%	12833	BEARING KIT .....	1	INCLUDES ITEMS W/*
28%	1313	SCREW, FHSC 3/8 - 24 X 3/4 PLAIN	1	
29%	9120	RETAINER, DRIVEN PULLEY	1	
30%	2048	COUPLER - 7/8" ID	1	
31%	2323	KEY, 1/4 X 1/4 X 13/16	1	
32%	10450	SCREW, SHS 10-32 X 1/4	1	
33%	1139	KEY, WOODRUFF #21 HARDENED	1	
34+%	9041	SEAL, OIL LIP DUAL VITON TCM BRAND .....	1	JUNE 17, 2002 AND BELOW
34+%	12769	SEAL, 1-1/4 DIA NAT # 471766V .....	1	JUNE 18, 2002 AND ABOVE
35%	1146	SCREW, FHSC 5/16-18X1, NYLOC, NP .....	4	JUNE 17, 2002 AND BELOW
35%	20875	SCREW, FHS 5/16 -18 X 3/4 .....	4	JUNE 18, 2002 AND ABOVE
36%	12770	RING, SNAP TRUARC #5100 - 125	1	
37%	12766	COVER, HD GEARBOX 1-1/4 SHAFT	1	
38+%	9038	O-RING, A - 264 VITON	1	
39*%	12768	BEARING, CONE TIMKEN #15126	2	
40*%	12767	BEARING, CUP, TIMKEN #15245	2	
41%	12764	SHAFT, MAIN HD RIDER 1-1/4 SHAFT	1	
42%	9180	KEY, 5/16 X 2 -1/4 HRDND	1	
43%	12772	GEAR, WORM RH. HT 1-1/4	1	
49%	10138	SCREW, SHS 1/4-20 X 1/2, N.P.	1	
50%	9043	SPACER, 1-1/4 X 1 X 1.375L .....	2	UP TO OCT. 07, 1999
51%	2116	O-RING, SIZE -022, BUNA-N .....	2	UP TO OCT. 07, 1999
52%	12582	RING, SNAP TRUARC 5160-98 .....	1	UP TO OCT. 07, 1999
54%	10930	WASHER, FENDER 1/4 X 1-1/4 .....	1	UP TO OCT. 07, 1999
55%	10235	WASHER, C/S EXT. SHKP, 5/16 .....	4	UP TO JUNE 17, 2002
56%	10989	STUD, 10-32 X 3/4	1	
57	20111	OIL, MOBIL SYNTHETIC 22 OZ (651 ML) .....	1	REQUIRES 69 OZ (2.0 LITERS)

# HTN/HTO-31V — DRIVE ASSY.

DRIVE ASSY.



NOTE: PROVIDES 145 RPM BLADE SPEED

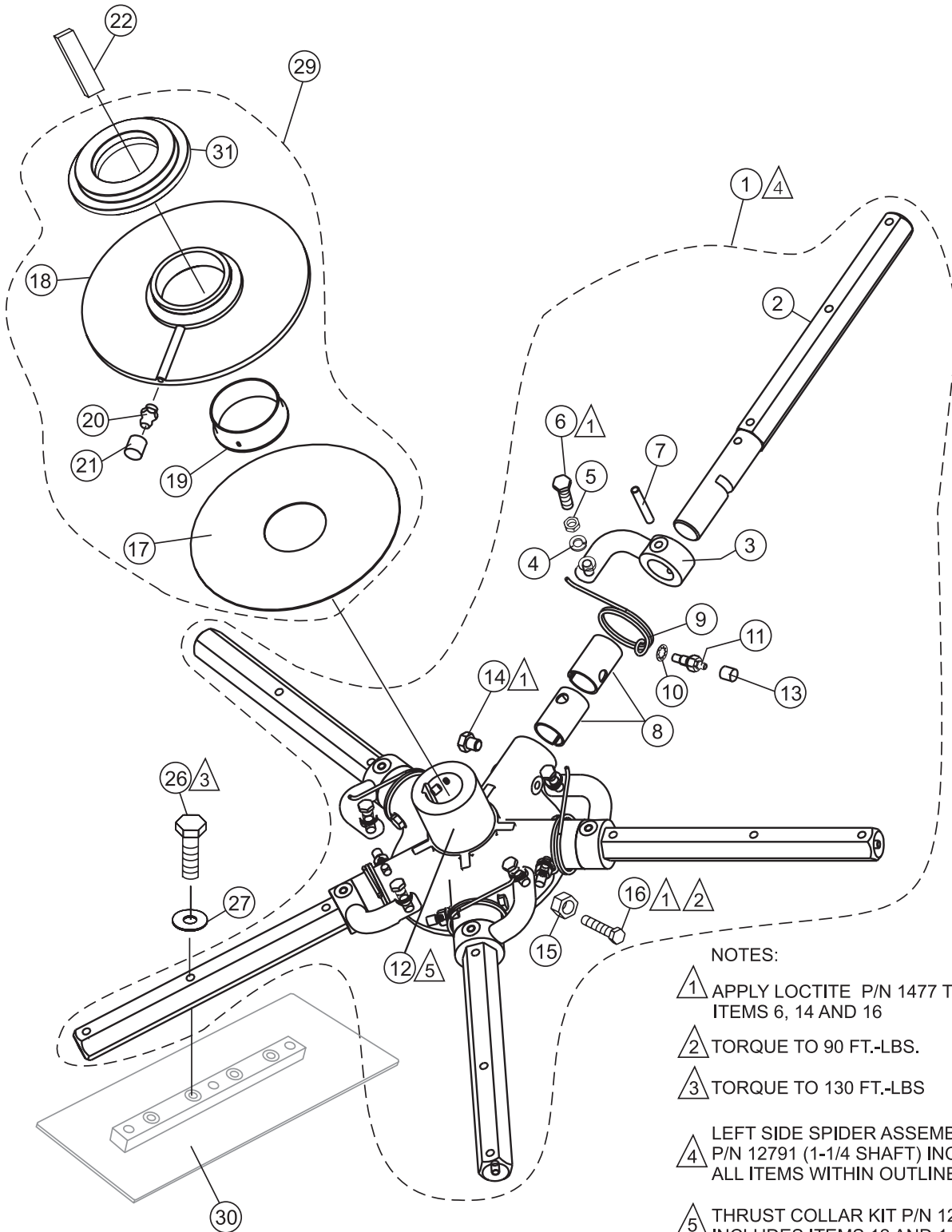
# HTN/HTO-31V — DRIVE ASSY.

## DRIVE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0126	KEY, WOODRUFF #9	4	
2	0161 C	WASHER, LOCK, 5/16 MED	12	
3	10133	NUT, NYLOC 3/8-16	4	
4	10136	WASHER, FLAT 3/8 SAE .....	8	APRIL 10, 2001 AND BELOW
4	10136	WASHER, FLAT 3/8 SAE .....	4	APRIL 11, 2001 AND ABOVE
5	10138	SCREW, SHS 1/4-20 X 1/2, N.P.	1	
6	10337	BEARING, P-BLOCK, FAF YAK-1 .....	2	INCLUDES ITEMS W/@
7	10514	SPACER, BEARING SHAFT	1	
8	10748	<b>HTN</b> , SHAFT, CV JOINT	1	
8	2122	<b>HTO</b> , SHAFT, CV JOINT	1	
9	10909	KEY, 3/16" SQ X 11/16	1	
10	11171	PULLEY, "B" 6-1/2 OD (145 RPM)	1	
11	1146	SCREW, FHSC 5/16-18X1, NYLOC, NP	1	
12	1284	SCREW, HHC 3/8-16 X 1-1/2 .....	4	APRIL 10, 2001 AND BELOW
13	2029	COUPLER - 1" ID- RIDER	1	
14	2037	WASHER, RETAINING	1	
15	2052	JOINT, CV (W/BOOT)	4	
16	2090	RING, SNAP, TRUARC #5100106	4	
17	2129	SHAFT, BEARING ASM	1	
18	2186	SCREW, SHC 5/16-18 X 2-1/4 PLTD	9	
19	2187	SCREW, SHC 5/16-18 X 2-1/2 PLTD	3	
20	2218	CAP PLUG, 1/8"-RIDER .....	12	APRIL 10, 2001 AND BELOW
21	20186	PLATE, BEARING MOUNT W/A .....	2	APRIL 11, 2001 AND ABOVE
		..... INCLUDES ITEM W/#		
21A#	20187	SCREW, HHC 3/8-16 X 1-1/2 SS .....	4	APRIL 11, 2001 AND ABOVE
22	2259	BOOT, CV JOINT	4	
23	11108	GASKET, CV JOINT BOOT	4	
24	392052	JOINT, CV	4	
25	10904	COUPLER, BEARING SHAFT	1	
27@	11773	SHIM, TRUNNION, .031" THICK .....	2	APRIL 06, 2001 AND ABOVE

# HTN/HTO-31V — 5-BLADE SPIDER ASSY. (LEFT-SIDE)

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 TORQUE TO 130 FT.-LBS
- ④ LEFT SIDE SPIDER ASSEMBLY P/N 12791 (1-1/4 SHAFT) INCLUDES ALL ITEMS WITHIN OUTLINE.
- ⑤ THRUST COLLAR KIT P/N 12787 INCLUDES ITEMS 12 AND 14.

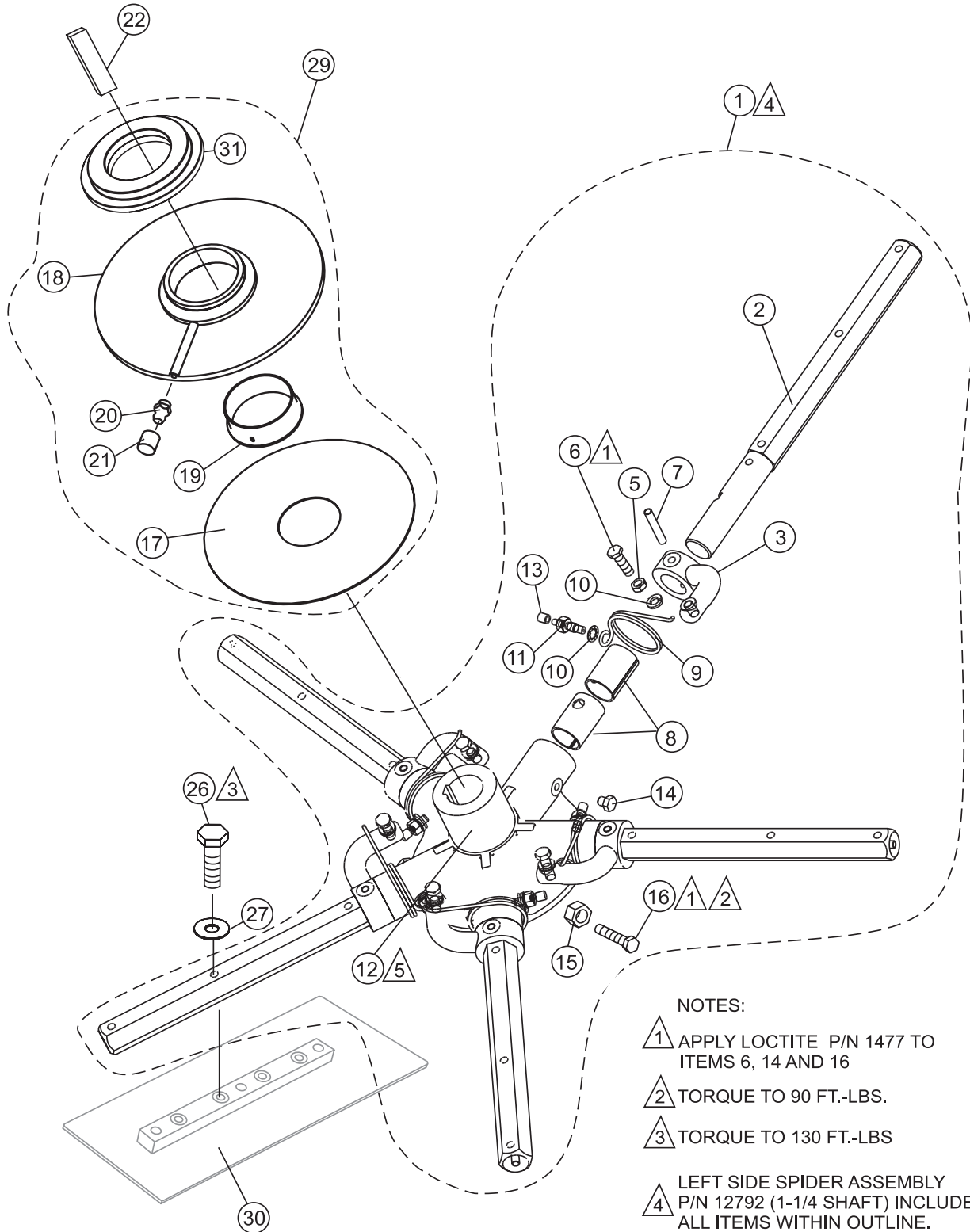
## HTN/HTO-31V — 5-BLADE SPIDER ASSY. (LEFT-SIDE)

### 5-BLADE SPIDER ASSY. (LEFT)

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12791	SPIDER ASM, LEFT SIDE (1-1/4) .....	1	INCLUDES ITEMS W/%
2%	2829	ARM, TROWEL EXTENDED	5	
3%	9005	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%	12787	SPIDER KIT, 5 BLADE (1-1/4) .....	1	INCLUDES ITEM W/ >
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+*	11464	BUSHING, THRUST COLLAR	1	
20*	2621	FITTING, GREASE	1	
21*	1162 A	CAP, GREASE ZERK	1	
22	12101	KEY, 5/16 X 2-5/8 HRDND	1	
26	0105	SCREW, HHCS 5/16-18 X 11/2"	15	
27	0161C	Lock Washer 5/16"	15	
29	20938	THRUST COLLAR KIT .....	1	INCLUDES ITEMS W/*
30		BLADE ASSEMBLY .....	5	CONTACT UNIT SALES
31	12779	BEARING	1	

# HTN/HTO-31V — 5-BLADE SPIDER ASSY. (RIGHT-SIDE)

RIGHT 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 TORQUE TO 130 FT.-LBS
- ▲4 LEFT SIDE SPIDER ASSEMBLY P/N 12792 (1-1/4 SHAFT) INCLUDES ALL ITEMS WITHIN OUTLINE.
- ▲5 THRUST COLLAR KIT P/N 12787 INCLUDES ITEMS 12 AND 14.

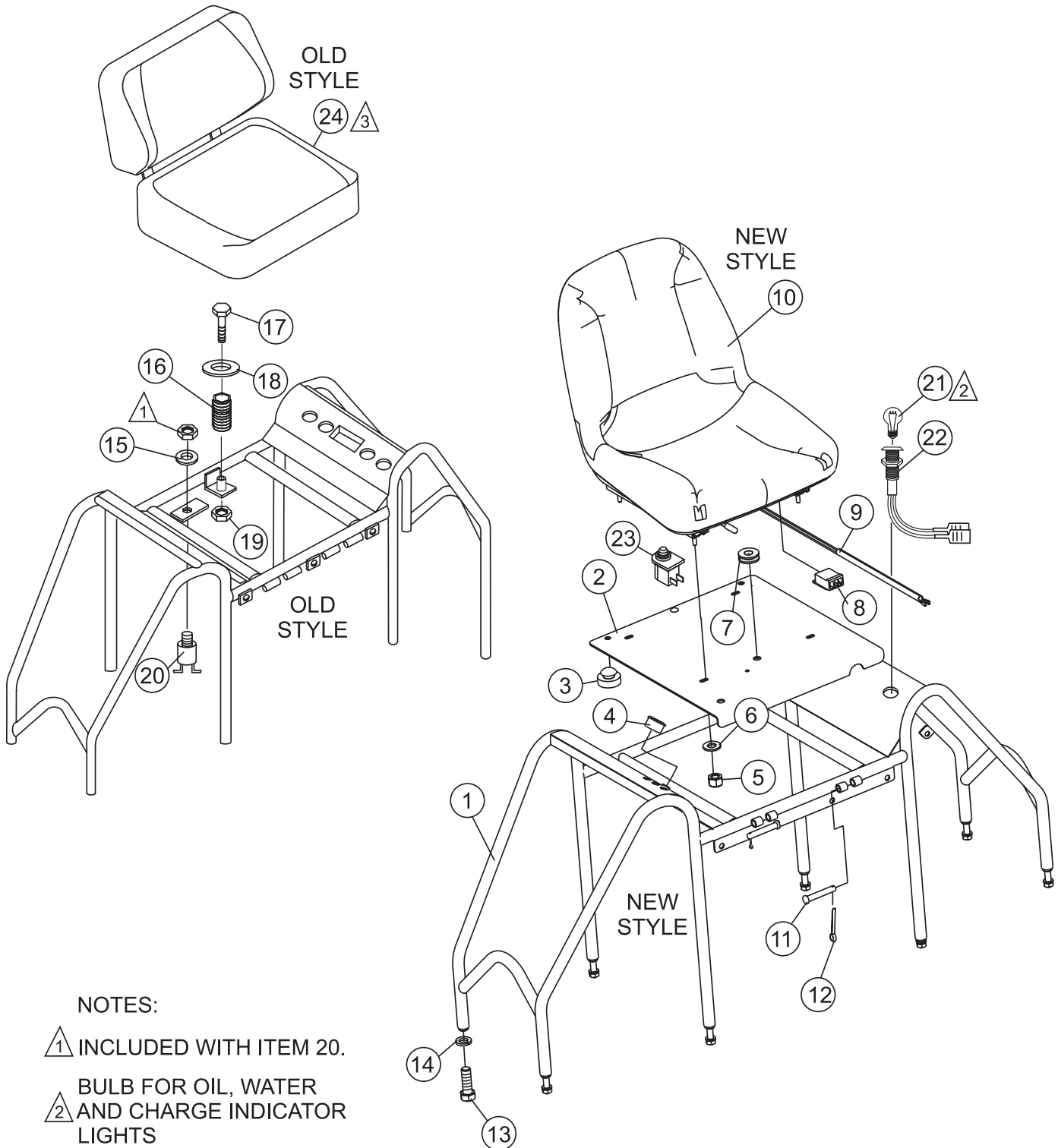
## HTN/HTO-31V — 5-BLADE SPIDER ASSY. (RIGHT-SIDE)

### 5-BLADE SPIDER ASSY. (LEFT)

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12792	SPIDER ASM, LEFT SIDE (1-1/4) .....	1	INCLUDES ITEMS W/%
2%	2829	ARM, TROWEL EXTENDED	5	
3%	1986	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%	2143	SPRING, LEFT TROWEL	5	
10%	1875	WASHER, INT SHKP 3/8	5	
11%	1322	SCREW ASSY, ARM RETAINING	5	
12%	12787	SPIDER KIT, 5 BLADE (1-1/4) .....	1	INCLUDES ITEM W/ >
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+*	11464	BUSHING, THRUST COLLAR	1	
20*	2621	FITTING, GREASE	1	
21*	1162 A	CAP, GREASE ZERK	1	
22	12101	KEY, 5/16 X 2-5/8 HRDND	1	
26	0105	SCREW, HHCS 5/16-18 X 11/2"	15	
27	0161C	LOCK WASHER 5/16"	15	
29	20938	THRUST COLLAR KIT .....	1	INCLUDES ITEMS W/*
30		BLADE ASSEMBLY .....	5	CONTACT UNIT SALES
31	12779	BEARING	1	

# HTN/HTO-31V — SEAT AND FRAME ASSY.

SEAT AND FRAME ASSY.  
(VIEW FROM OPERATOR'S SEAT)



**NOTES:**

① INCLUDED WITH ITEM 20.

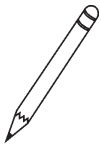
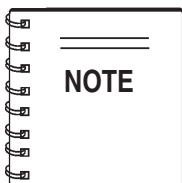
② BULB FOR OIL, WATER  
AND CHARGE INDICATOR  
LIGHTS

③ WHEN OLD STYLE SEAT, PARTS  
ORDER STOCK HAS BEEN DEPLETED  
(ITEM 24). NEW STYLE SEAT MUST BE  
ORDERED (ITEM 10).

# HTN/HTO-31V — SEAT AND FRAME ASSY.

## SEAT AND FRAME ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12109	FRAME, HTN SEAT W/A VAN	1	
1	11829	FRAME, HTO SEAT W/A VAN	1	
2	11660	PLATE, SEAT W/A HTN/HTO	1	
3	21597	BUMPER, STEM .....	3	MAR. 27, 2006 AND ABOVE
4	21507	PLUG, PANEL 11/16 DIA.	1	
5	5283	NUT, NYLOC 5/16-18	4	
6	0300 B	WASHER, FLAT, 5/16 SAE	4	
7	19468	GROMMET, MINOR Z-4004 .....	2	MAR. 27, 2006 AND ABOVE
8	21936	CONNECTOR, BODY 2-PIN .....	1	MAR. 27, 2006 AND ABOVE
9	21938	WIRE ASSY., KILL SWITCH 37" .....	1	MAR. 27, 2006 AND ABOVE
10	21861	SEAT, ADJUSTABLE W/O ARMS .....	1	MAR. 27, 2006 AND ABOVE, SEE NOTE
11	8081	PIN, CLEVIS 1/2X2 3/4	2	
12	0183	PIN, COTTER 1/8X1 1/4	2	
13	5218	SCREW, HHC 1/2-13X1 1/2	8	
14	5054A	WASHER, LOCK, 1/2 MED.	8	
15	4684	WASHER, FLAT, 5/8 PLD .....	1	MAR. 26, 2006 AND BELOW
16	11593	SPRING, SEAT .....	1	MAR. 26, 2006 AND BELOW
17	8156	SCREW, HHC 3/8-16X2 1/2 .....	1	MAR. 26, 2006 AND BELOW
18	4001	WASHER, FLAT, 3/8 USS PLD .....	1	MAR. 26, 2006 AND BELOW
19	10133	NUT, NYLOC 3/8-16 .....	1	MAR. 26, 2006 AND BELOW
20	12005	SWITCH, KILL .....	1	MAR. 26, 2006 AND BELOW
21	12307	BULB, INDICATOR LIGHT	3	
22	12305	PLUG INDICATOR LIGHT	3	
23	21870	SEAT KILL SWITCH .....	1	MAR. 26, 2006 AND ABOVE
24	20989	SEAT, ADJUSTABLE .....	1	MAR. 26, 2006 AND BELOW, ..... SEE NOTE

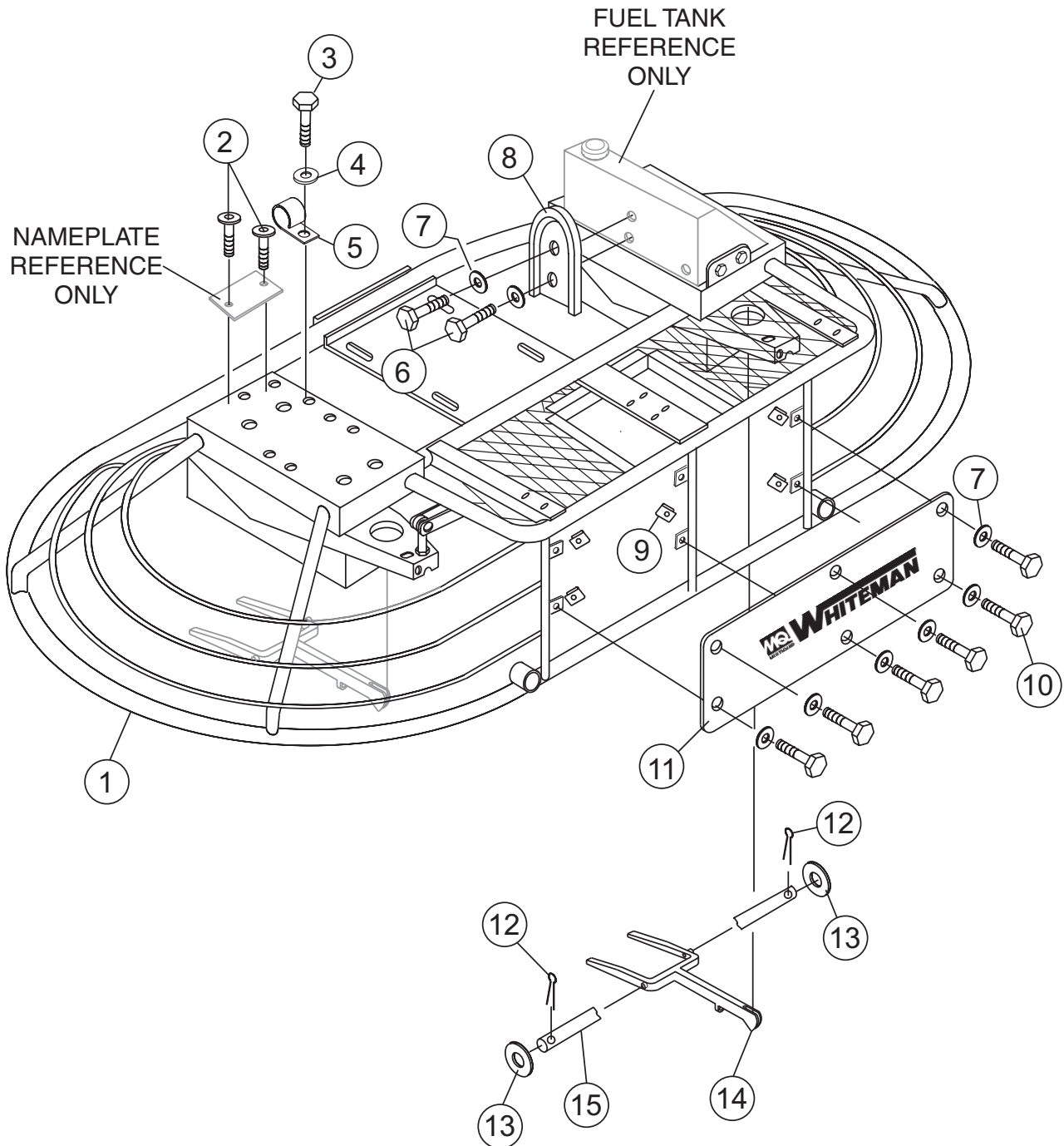


WHEN OLD STYLE SEAT, PARTS ORDER STOCK HAS BEEN DEPLETED (ITEM 24). NEW STYLE SEAT MUST BE ORDERED (ITEM 10).

# HTN/HTO-31V — FRAME AND COMPONENTS ASSY.

## FRAME AND COMPONENTS

VIEW FROM OPERATOR'S SEAT



# HTN/HTO-31V — FRAME AND COMPONENTS ASSY.

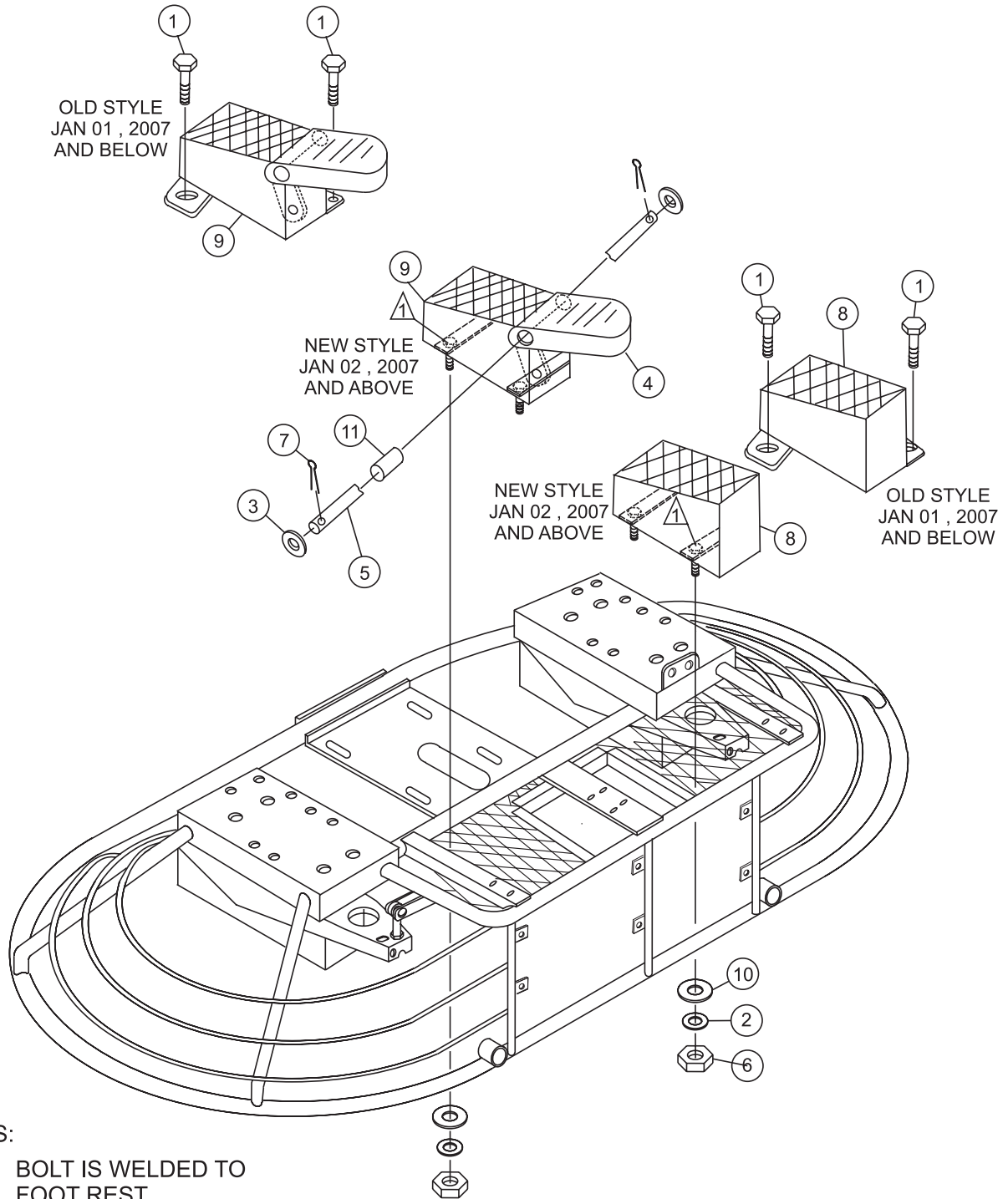
## FRAME AND COMPONENTS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12345	FRAME HTN-V	1	
1	12453	FRAME HTO-V	1	
2	4014	SCREW, 2-3/16 P-K TYPE U DRIVE	2	
3	5065B	SCREW, RHM 10-32X1/2	1	
4	2203	WASHER, FLAT, #10	1	
5	8126	CLAMP, HOSE SUPPORT 1/2" SMALL	1	
6	4514	SCREW, HHC 1/4-20X5/8	2	
7	0948	WASHER, FLAT, 1/4 SAE	9	
8	2429	HOLDER, SPARE BELT	1	
9	11534	NUT "U" TYPE, 1/4-20	6	
10	4514	SCREW, HHC 1/4-20X5/8	6	
11	11223	PANEL, FRONT (HTN) .....	1	UP TO ~DEC 17, 2001
11	20947	PANEL, FRONT (HTN) .....	1	DEC 18, 2001 AND ABOVE
11	11241	PANEL, FRONT (HTO) .....	1	UP TO ~DEC 17, 2001
11	20945	PANEL, FRONT (HTO) .....	1	DEC 18, 2001 AND ABOVE
12	0683	PIN COTTER 3/32X3/4	4	
13	10136	WASHER, FLAT, 3/8 SAE	4	
14	12100	YOKE, HTO/HTN-V	2	
15	9028	PIN, YOKE	2	

# HTN/HTO-31V — FOOT PEDALS ASSY.

## FOOT PEDALS ASSY.

VIEW FROM OPERATOR'S SEAT



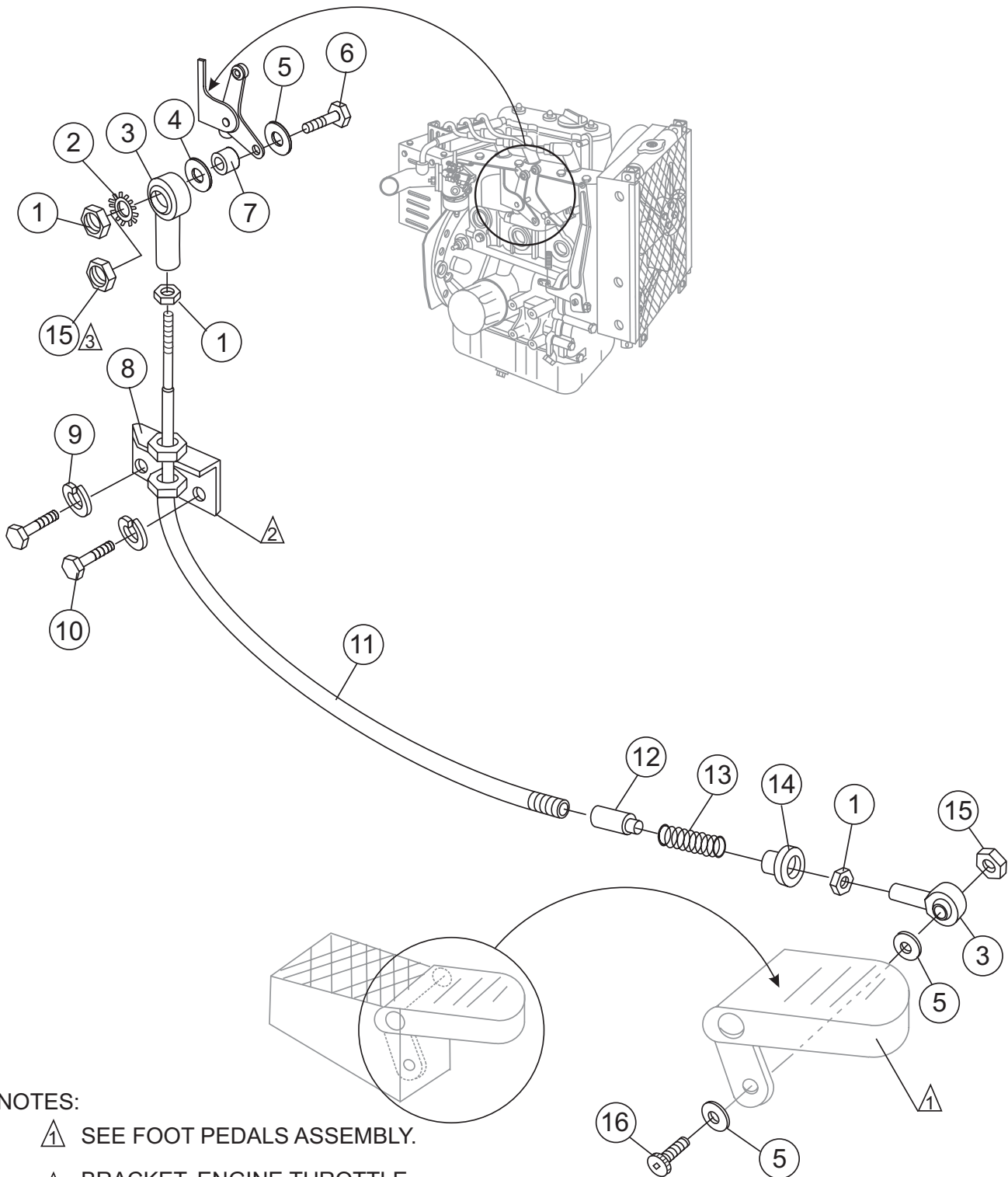
# HTN/HTO-31V — FOOT PEDALS ASSY.

## 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	UP TO ~JAN 01, 2007
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	12635	LEFT SIDE FOOT REST (TALL) .....	1	UP TO ~JAN 01, 2007
8	22035	FOOT RISER W/A RIDER LEFT SIDE .....	1	JAN 02, 2007 AND ABOVE
9	12637	RIGHT SIDE FOOT REST (TALL) .....	1	UP TO ~JAN 01, 2007
9	22037	FOOT RISER W/A, RIDER ACCELERATOR SIDE .....	1	JAN 02, 2007 AND ABOVE
10	3233	WASHER, FENDER, 1.5" OD X3/8" ID	4	
11	3083	SPACER	1	

# HTN/HTO-31V — THROTTLE ASSY.

## THROTTLE FOOT PEDAL ASSY.



### NOTES:

- ▲ SEE FOOT PEDALS ASSEMBLY.
- ▲ BRACKET, ENGINE THROTTLE CABLE. MOUNT TO ENGINE.
- ▲ REMOVE ITEM 1 P/N 937 AND REPLACE WITH ITEM 15, P/N 10019 ON UNITS MADE AFTER MAY 16, 2000

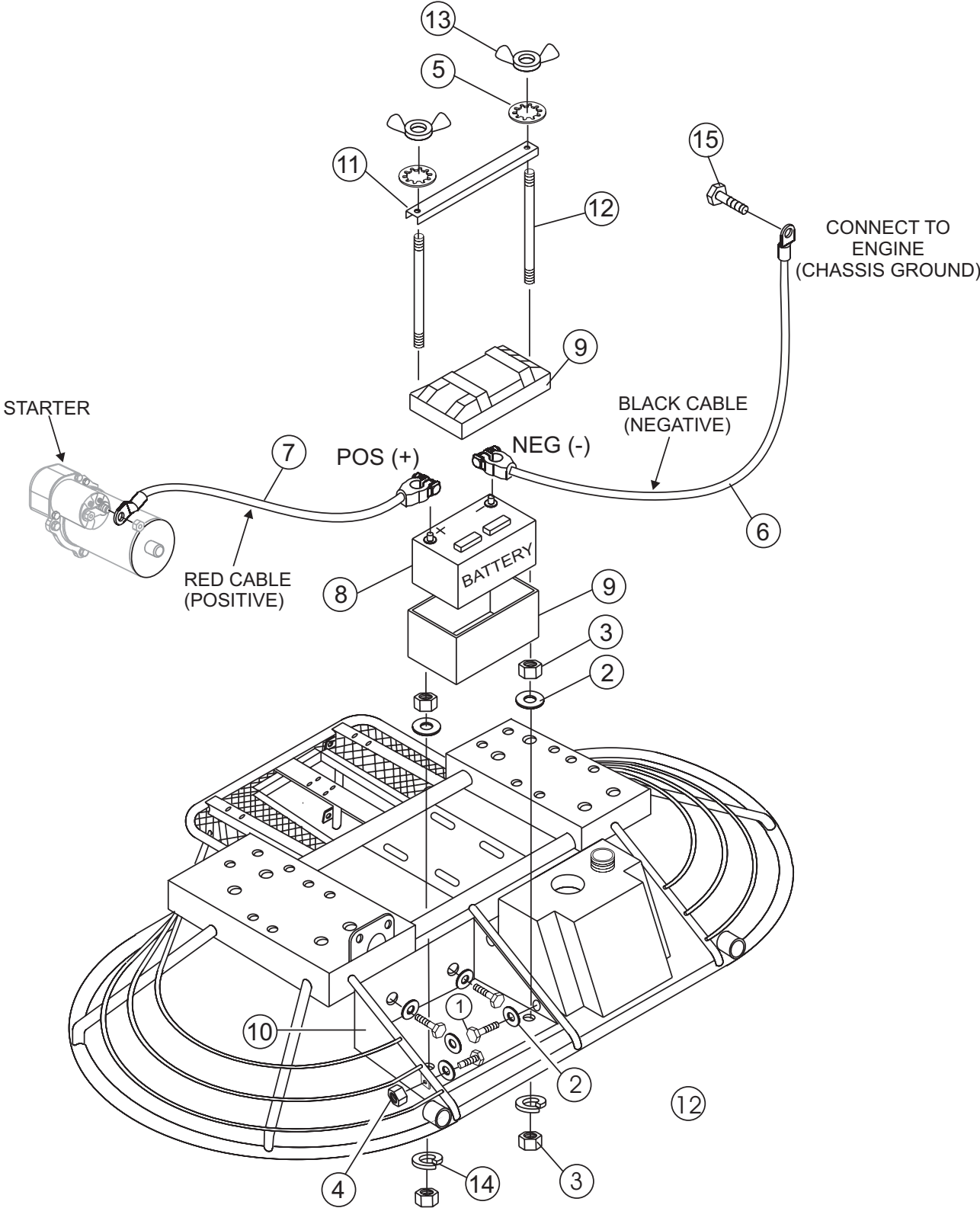
# HTN/HTO-31V — THROTTLE ASSY.

## 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 .....	UP TO MAY 15, 2000
1	0937	NUT, HEX 10-32 .....	2 .....	MAY16, 2000 AND ABOVE
2	10237	WASHER, EXT. SHKP, 5/16 .....	1 .....	UP TO MAY,15 2000
3	2153	ROD END, 10-32 FEMALE RH	2	
4	0300 B	WASHER, FLAT, 5/16 SAE .....	1 .....	UP TO MAY 15, 2000
4	2203	WASHER, FLAT, #10 .....	1 .....	MAY16, 2000 AND ABOVE
5	2203	WASHER, FLAT, #10	4	
6	8133	SCREW, RHM 10-32 X 3/4 .....	1 .....	UP TO MAY 15, 2000
6	3513	SCREW, HHF 10-32 X 1 .....	1 .....	MAY16, 2000 AND ABOVE
7	11710	SPACER, ENGINE THROTTLE	1	
8	11771	BRACKET, ENGINE THROTTLE CABLE	1	
9	0161 C	WASHER, LOCK, 5/16 MED.	2	
10	0730	SCREW, HHC 1/4-20 X 1	2	
11	2124	CABLE, THROTTLE (RT)	1	
12	2754	ADAPTOR, THROTTLE RET. SPRING LONG .....	1 .....	JAN 01, 2007 AND BELOW
12	22042	SPACER, THROTTLE SPRING 1.0 X.5 X3.0 .....	1 .....	JAN 02, 2007 AND ABOVE
13	2753	SPRING, THROTTLE RETURN, LOWER	1	
14	2755	ADAPTOR, THROTTLE RET. SPRING SHORT	1	
15	10019	NUT, NYLOC 10-32 .....	1 .....	UP TO MAY 15, 2000
15	10019	NUT, NYLOC 10-32 .....	2 .....	MAY16, 2000 AND ABOVE
16	10018	SCREW, SHC 10-32X1 NO PLATE	1	

# HTN/HTO-31V — BATTERY ASSY.

## BATTERY ASSY.



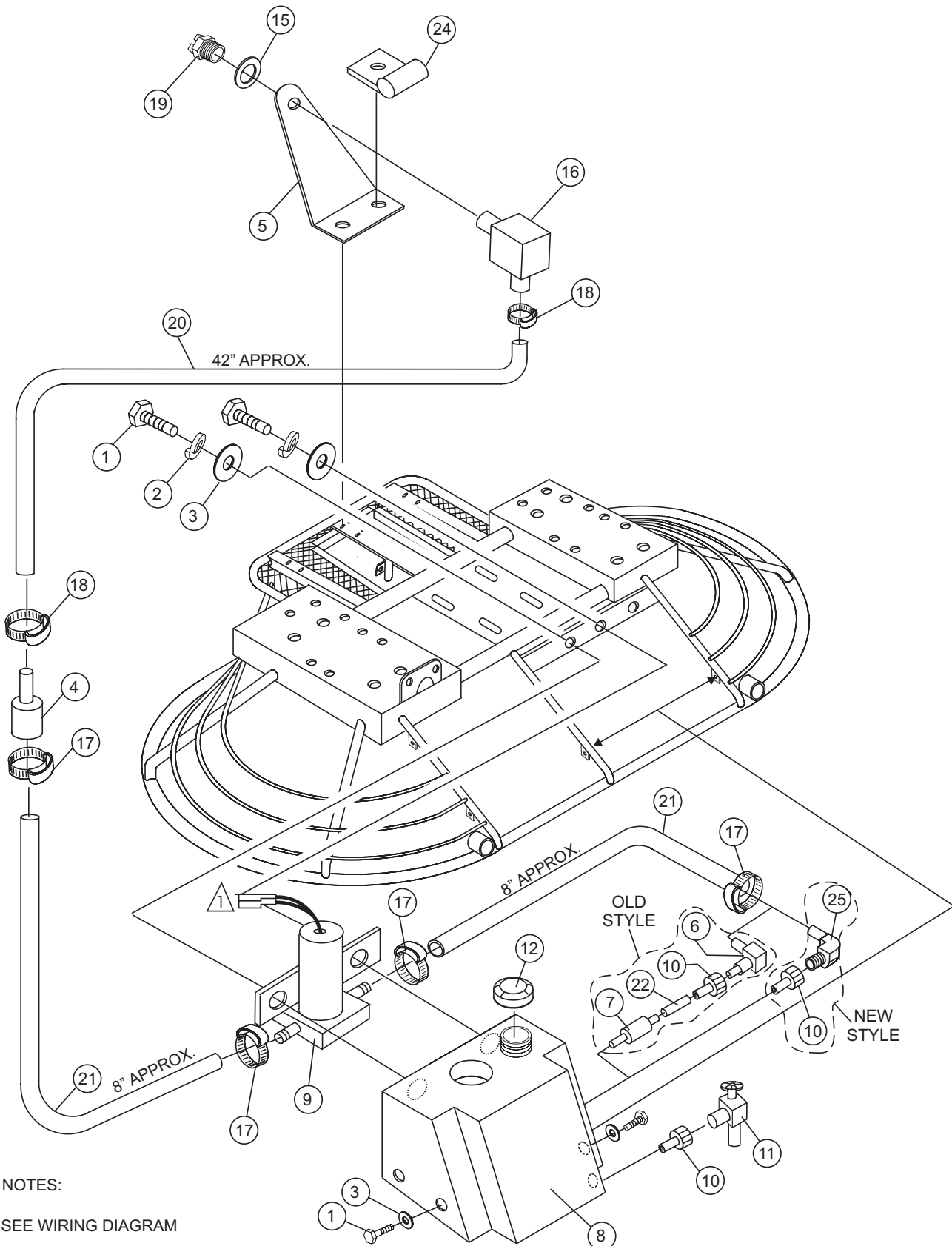
## HTN/HTO-31V — BATTERY ASSY.

### 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	
14	181B	WASHER, LOCK 1/4 MED	2	
15	2866	SCREW, HHC M8 1.25 X 20 MM GR 8.8	1	

# HTN/HTO-31V — SPRAY ASSY.

SPRAY ASSY.



NOTES:

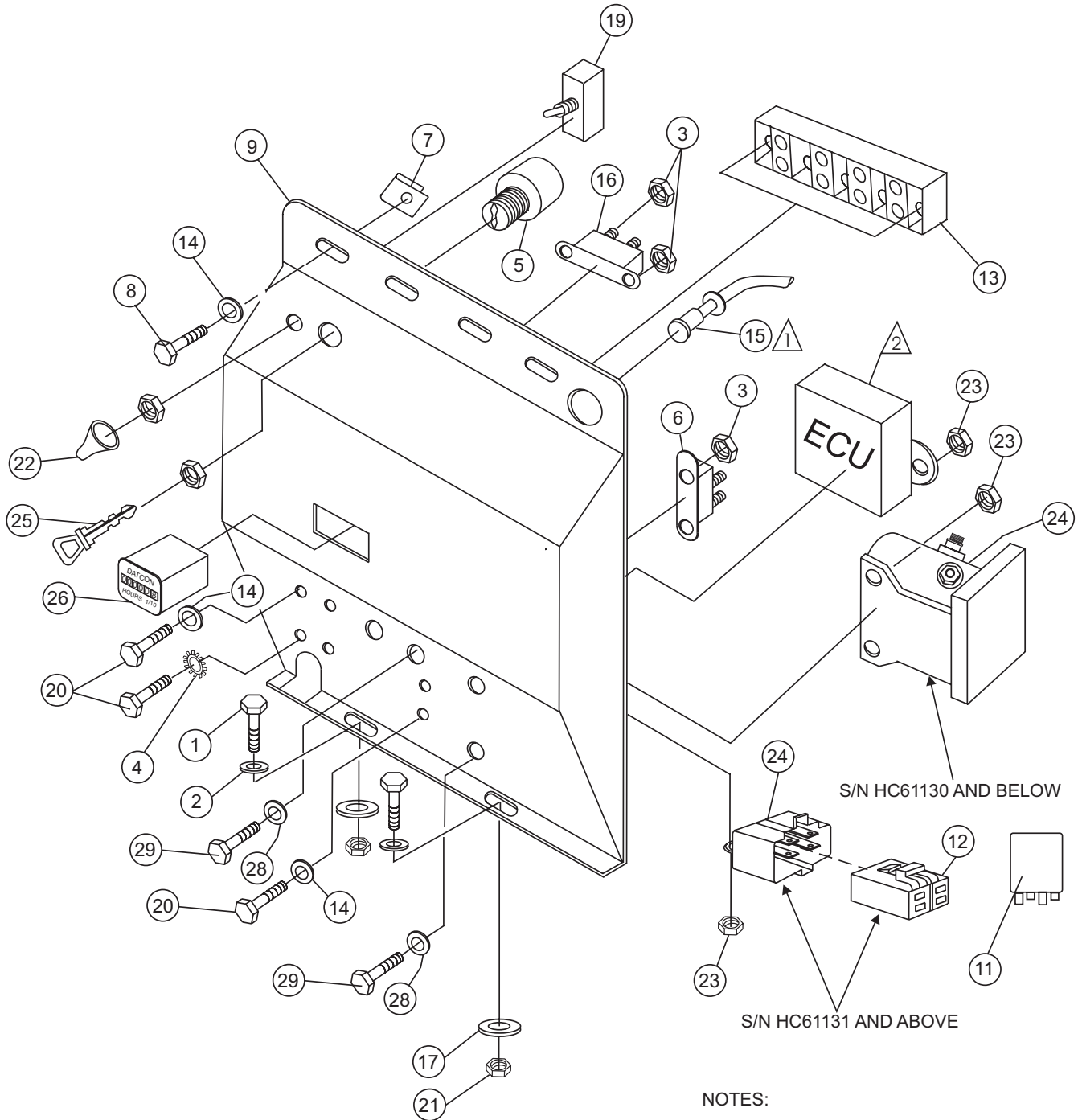
1 SEE WIRING DIAGRAM

SPRAY ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0131A	SCREW, HHC 1/4-20X3/4	4	
2	0181B	WASHER, LOCK, 1/4 MED.	4	
3	0948	WASHER, FLAT, 1/4 SAE	4	
4	10022	FITTING, PLASTIC 6BARB-4BARB	1	
5	11222	MOUNT, SPRAY NOZZLE	1	
6	12008	FITTING, 90° 6BARB-4BARB .....	1	UP TO APRIL 08, 2005
7	12009	SCREEN, FILTER DAPCO 11604 .....	1	UP TO APRIL 08, 2005
8	12036	TANK, RETARDANT 5 GALLON	1	
9	10043	PUMP, SPRAY, SHURFLO 100-000-21	1	
10	19633	BUSHING, RUBBER DAPCO 10672	2	
11	19661	VALVE, DRAIN DAPCO 11478	1	
12	2108	CAP, SPRAY TANK	1	
15	2898	WASHER, BONDED NEOPRENE 1"X1/2"	1	
16	2912	FITTING, 90 4BARB-1/4FP	1	
17	2918	CLAMP, HOSE, .475-.536 I.D.	4	
18	2930	CLAMP, HOSE, .360-.410 I.D.	2	
19	392292	NOZZLE, SPRAY	1	
20	60001	HOSE, .25 ID X.375 OD TYGON .....	3.5 FT.	APPROX. LENGTH
21	60002	HOSE, .375 ID X.5 OD TYGON .....	1.5 FT.	APPROX. LENGTH
22	60058	HOSE, 1/4X3/8 PVC YELLOW (1-1/4 INCH LONG) .....	1	UP TO APRIL 08, 2005
24	8128	CLAMP, HOSE SUPPORT, 5/16"	1	
25	29677	FITTING, 90° BARB X 4BARB TRUTANK SCREEN .....	1	APRIL 09, 2005 AND ABOVE

# HTN/HTO-31V — CONTROL PANEL ASSY.

## 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.

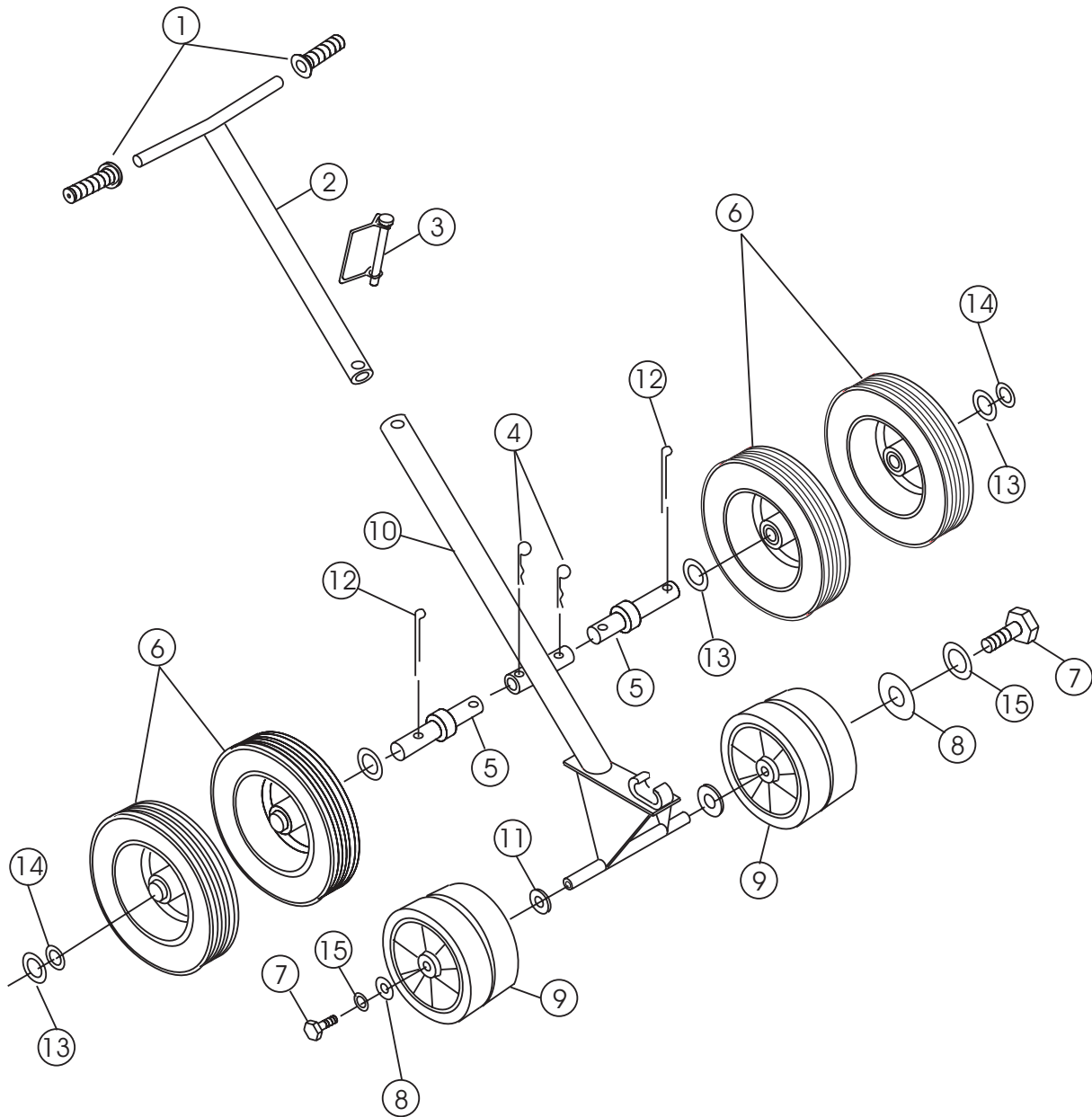
# HTN/HTO-31V — CONTROL PANEL ASSY.

## 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	21319	PANEL, HTO/N VANGUARD CONTROL .....	1 .....	REPLACES P/N 11861
11	12017	RELAY, KILL	1	
12	12018	CONNECTOR, RELAY .....	1 .....	S/N HC61131 AND ABOVE
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, 1.5od X 3/8id	2	
19	4682	SWITCH, TOGGLE	1	
20	5065 B	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	11792	ACCESSORY SOLENOID .....	1 .....	S/N HC61130 AND BELOW
24	11912	ACCESSORY RELAY .....	1 .....	S/N HC61131 AND ABOVE
25	11078	KEY, IGNITION SWITCH	1	
26	11694	HOUR METER, DATCON .....	1 .....	OLD STYLE
26	29640	HOUR METER, FLUSH MOUNT .....	1 .....	NEW STLE
28	0948	FLAT WASHER 1/4"	4	
29	12287	SCREW, THP 1/4-20 X 3/4-SS	4	

# HTN/HTO-31V — E-Z MOVER AND LIFT HANDLE ASSY.

E-Z MOVER (EMR2) AND LIFT HANDLE



## HTN/HTO-31V — E-Z MOVER AND LIFT HANDLE ASSY.

### E-Z MOVER (EMR2) AND LIFT HANDLE

<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.