

RAZORBACK® RIDERS



OPERATIONS MANUAL AND PARTS BOOK



SP450

SUPER PROFESSIONAL SERIES RIDING TROWEL

allen
ENGINEERING
CONCRETE IDEAS TO BUILD ON®

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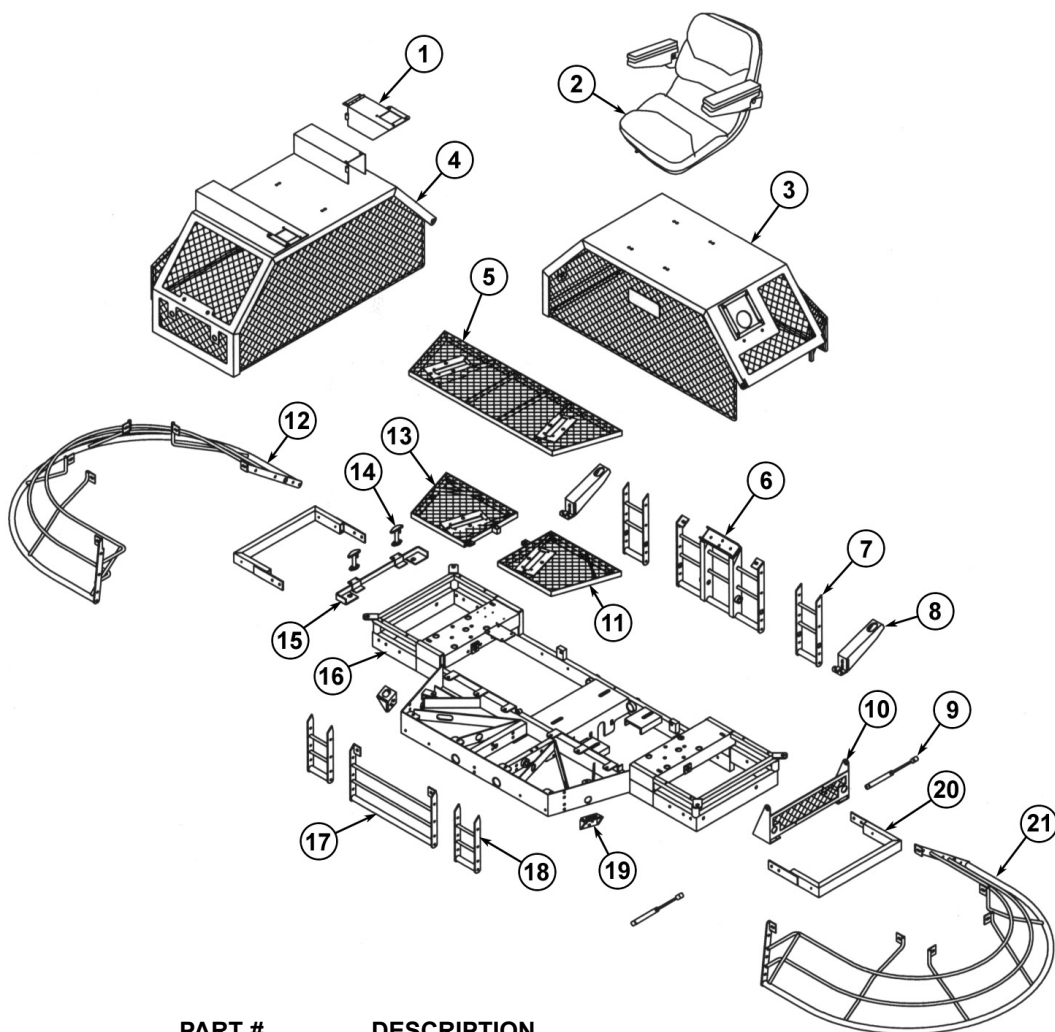
NOTE: All set screws used on MODEL SP450-1200-SD have blue (LOC-TITE TM) applied at the factory. If set screw is removed or loosened for any reason re-apply blue (LOC-TITE TM).

NOTE: All grease fittings on MODEL SP400-1200-SD are capped with CAP PLUG GC-5 part number #015692 to protect the fitting. If cap becomes missing or damaged replace it as soon as possible.

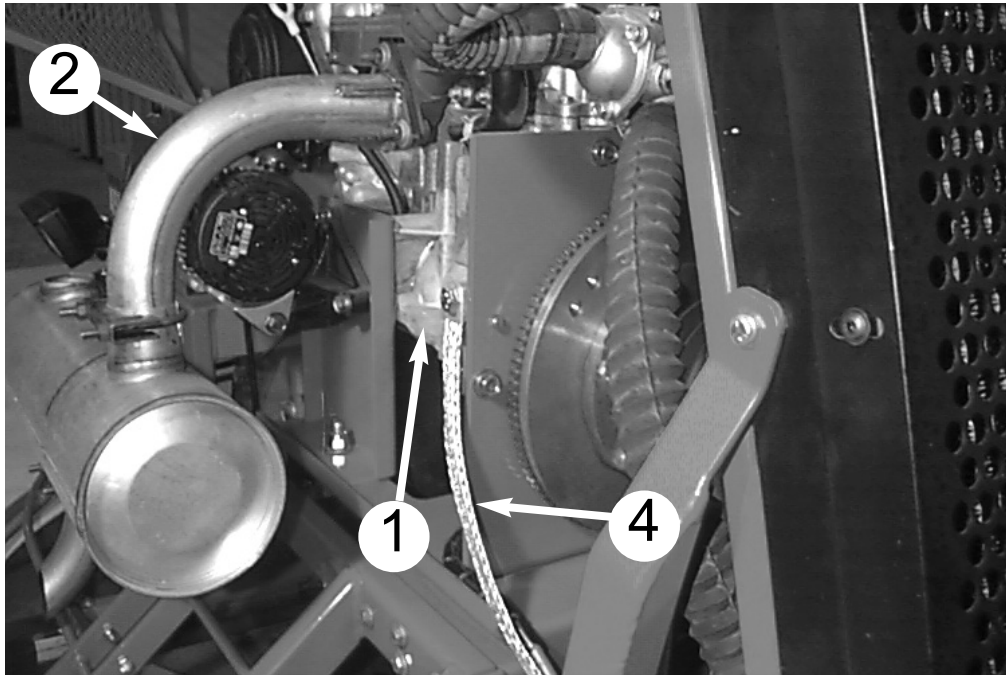
NOTE: Anti-Seize is applied at the factory to all drive line couplings, gear box main and counter shafts and pitch control threaded rod assemblies. If these parts are disassembled re-apply a light coat of a graphite based anti-seize.

2A OPERATIONS

FRAME ASSEMBLY



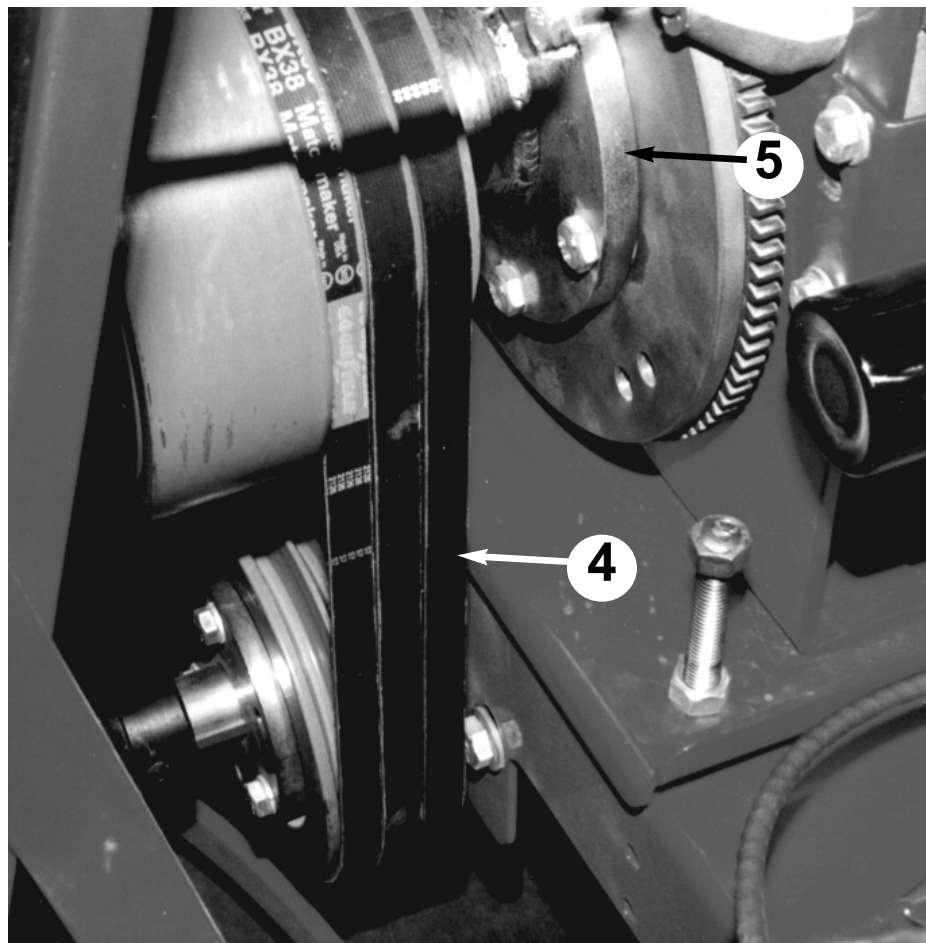
ILL.	PART #	DESCRIPTION	QTY.
1.	038492	LH CONTROL BOX MOUNTING PLATE F/ PST	1
2.	037769	SEAT	1
3.	039244	HOOD (SEAT FRAME)	1
4.	039244	HOOD (SEAT FRAME) 450PST	1
5.	038471	DECK F/ 450PST	1
6.	026962	RING, REAR	1
7.	026980	SPACER, REAR	2
8.	035283	LIFTING LUG (REAR)	2
9.	038342	SHOCK, 100lb.	2
10.	038385	HOOD PIVOT	1
11.	038332	DECK, LH	1
12.	034269	RING, END RH	1
13.	038331	DECK, RH	1
14.	022738	HOOD LATCH	2
15.	035502	HOOD REST	1
16.	038325	FRAME, MAIN	1
17.	026961	RING, FRONT	1
18.	026979	SPACER, FRONT	2
19.	037716	LIFTING LUG (FRONT)	2
20.	036817	BRACKET, TANK MOUNTING	2
21.	034268	RING, END LH	1
22.	038407	CONTROL PANEL LID (NOT SHOWN)	1
23.	037770	ARM REST (NOT SHOWN)	2



ILL.	PART #	DESCRIPTION	QTY.
1.	.038292	ENGINE, NISSAN	1
2.	.038428	MUFFLER	1
	.038430	TAILPIPE	1
	.038381	MUFFLER CLAMP	1
	.038352	BRACKET, MUFFLER SUPPORT (NOT SHOWN)	1
3.	.038351	ENGINE MOUNT BRACKET, FRONT (NOT SHOWN)	1
	.038348	PLATE, MOTOR MOUNT (NOT SHOWN)	1
	.038350	PLATE, STARTER MOUNTING	1
4.	.038070	CABLE, BRAIDED GROUND	1

2A OPERATIONS

CLUTCH ASSEMBLY 8" BLM -- 1-7/16" BORE

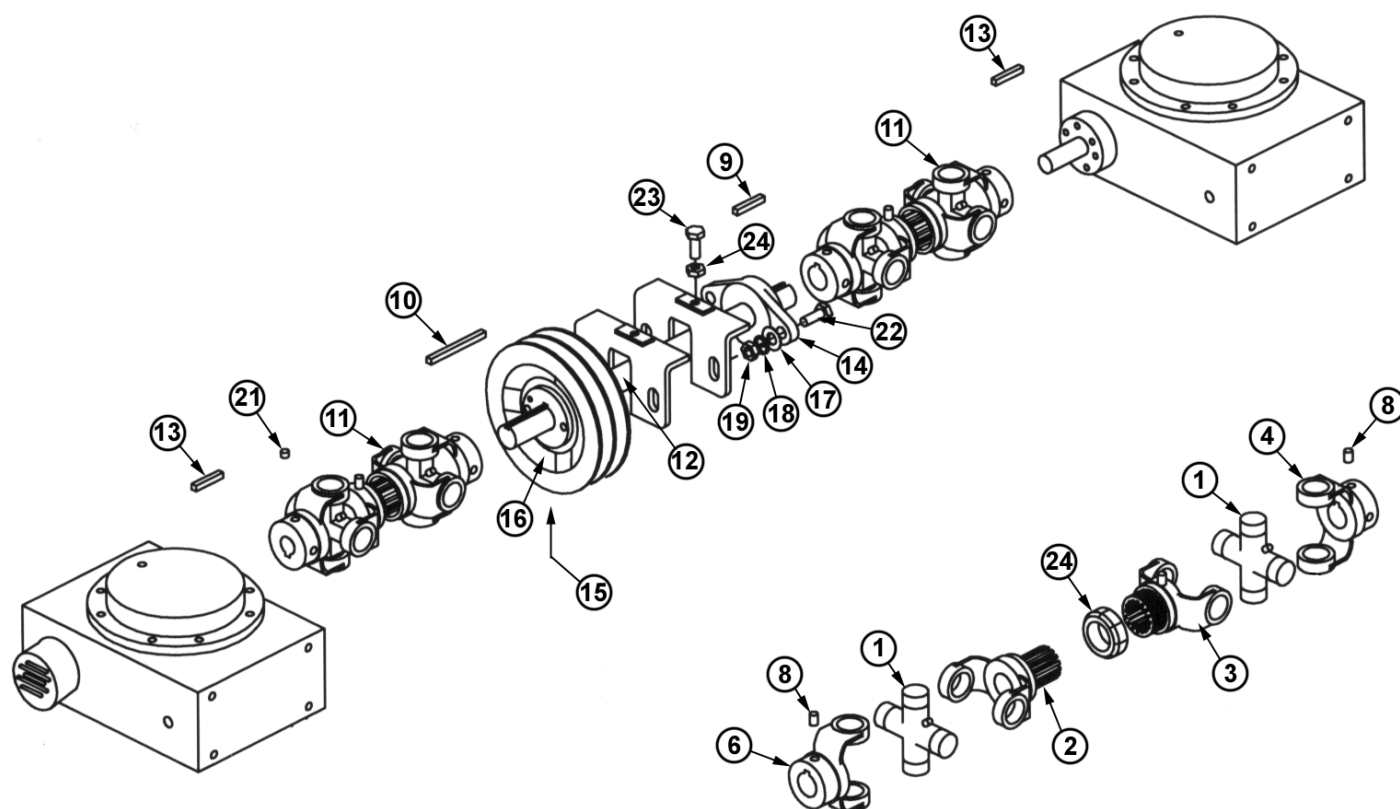


ILL.	PART #	DESCRIPTION	QTY.
1.....	026433	PRESSURE WASHER	1
2.....	010091	FSTN, LW 10MM	1
3.....	028402	BOLT, CLUTCH	1
4.....	039186	V-BELT BX38	3
5.....	038356	SHAFT, STUB	1

8" BLM CLUTCH W/ 1-7/16" BOREPART# 038380

DRIVELINE ASSEMBLY

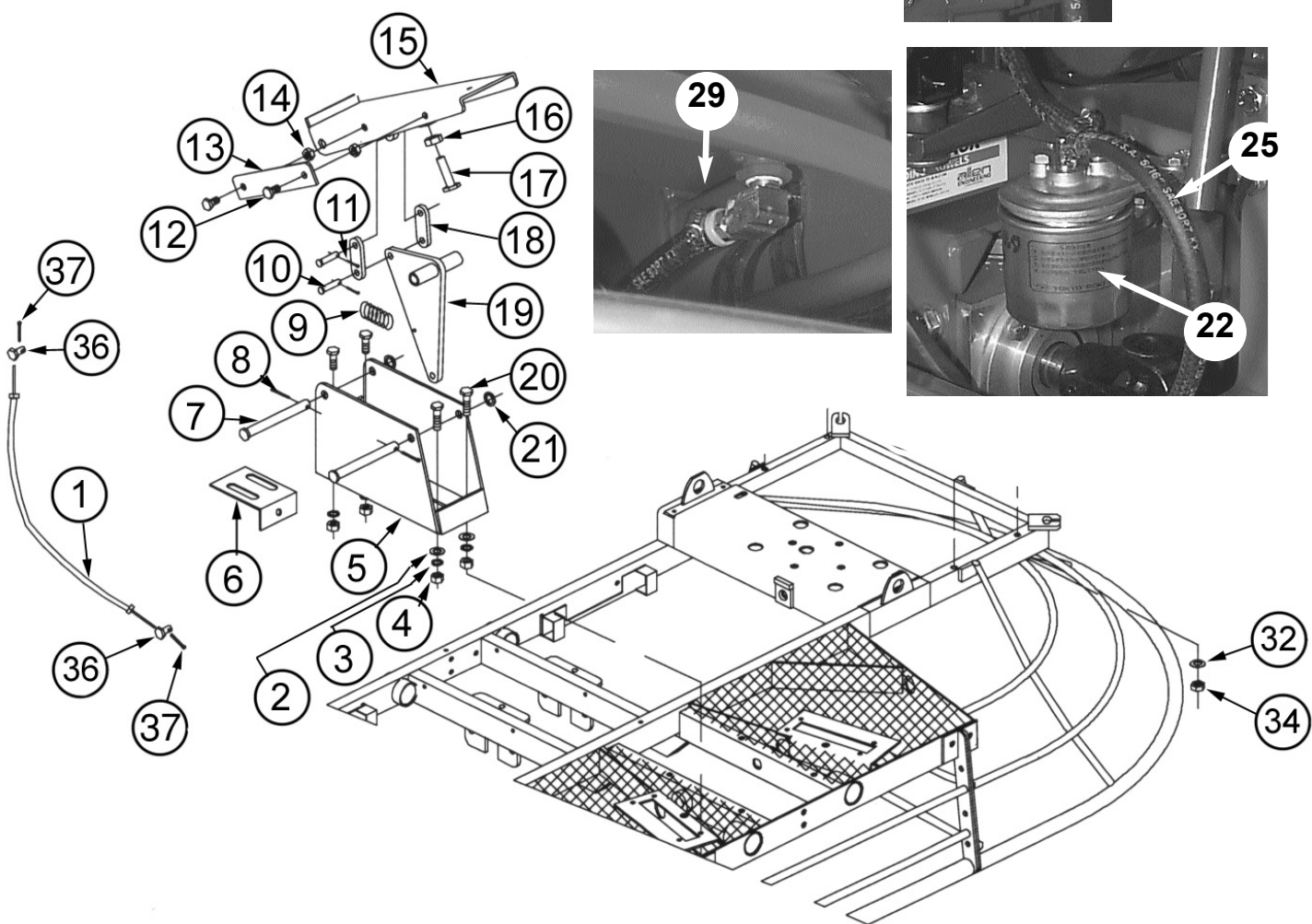
2A OPERATIONS



ILL.	PART #	DESCRIPTION	QTY.
1.....	.010458	SET SCREW 3/8-16 x 3/8	16
2.....	.010347	KEY, 1/4 SQ. x 2"	1
3.....	.024820	KEY, 1/4 SQ. x 4"	1
4.....	.037684	U-JOINT ASSEMBLY	2
5.....	.039133	SHAFT, CENTER DRIVE	1
6.....	.010102	NUT, HEX 3/8-16	2
7.....	.039130	BEARING, 2 HOLE FLANGE x 1-1/4" BORE	2
8.....	.039187	PULLEY, 2/5V7.100	1
9.....	.038151	BUSHING	1
10.....	.011490	FLAT WASHER 1/2" HARDENED	4
11.....	.011238	NUT, 1/2 NYLON	4
12.....	.010513	GREASE FITTING 1/8-27 NPT	8
13.....	.032745	PLUG, PLASTIC 1/8-27	8
14.....	.010054	BOLT, 1-1/2-24	4
15.....	.010036	BOLT, 3/8-16 x 1	2

2A OPERATIONS

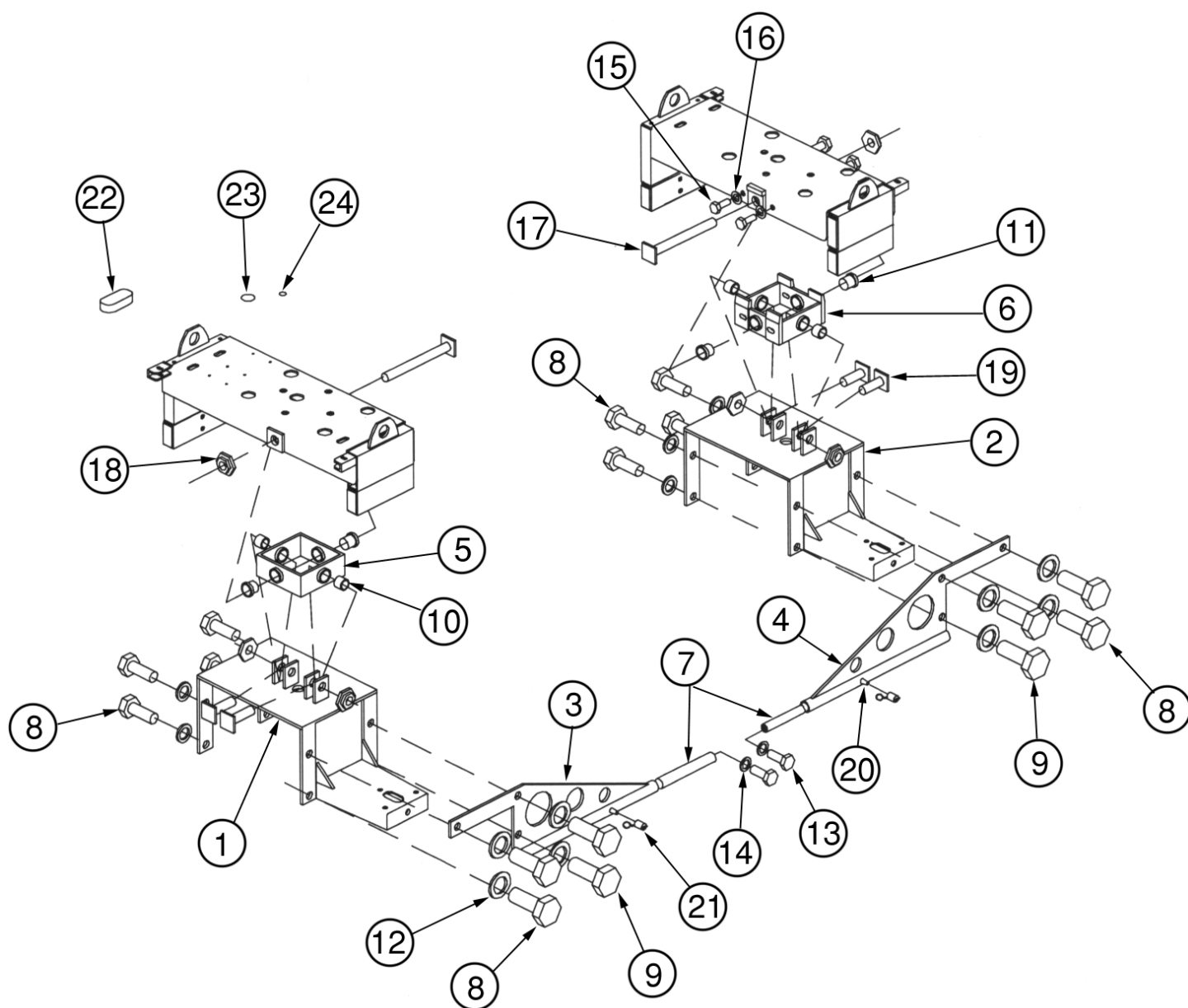
FUEL SYSTEM ASSEMBLY



ILL.	PART #	DESCRIPTION	QTY.
1.	037796	THROTTLE CABLE ASSEMBLY	1
2.	010081	FLAT WASHER 1/4	10
3.	010089	LOCK WASHER 1/4	4
4.	010098	HEX NUT 1/4-20	4
5.	024851	BASE, FOOT SPEED	1
6.	028526	BRACKET, LOWER HD THROTTLE CABLE	1
7.	028895	PIN, CLEVIS 3/8 x 3 1/2	1
8.	026226	PIN, COTTER 3/32 x 3/4	2
9.	024981	SPRING	1
10.	024982	PIN, CLEVIS 1/4 x 51/64	2
11.	010131	PIN, COTTER 1/16 x 1	2
12.	010001	BOLT, 1/4-20 x 1/2	2
13.	024985	PLATE, STOP	1
14.	020542	NUT, STOVER 1/4-20	2
15.	024839	PEDAL, FOOT SPEED	1
16.	010100	NUT, HEX 5/16-18	1
17.	010021	BOLT, 5/16-18 x 1 1/4	1
18.	024850	SHACKLE	2
19.	024847	FULCRUM, FOOT SPEED	1
20.	010003	BOLT, 1/4-20 x 1	2
21.	010082	FLAT WASHER 5/16	2
22.	037777	FUEL FILTER ASSEMBLY	1
23.	038349	BRACKET, THROTTLE (NOT SHOWN)	1
24.	019429	HOSE, FUEL 29 x 5/16 DIA.	1
25.	019430	CLAMP, #4 HOSE	4
26.	032295	GAUGE, GAS REMOTE	1
27.	037711	TANK, FUEL	1
28.	023533	CAP, FUEL FILTER ASSEMBLY (NOT SHOWN)	1
29.	010006	BOLT, 1/4-20 x 1 3/4 (NOT SHOWN)	4
30.	010081	FLAT WASHER 1/4	4
31.	015713	BUSHING, RUBBER	4
32.	020542	NUT, STOVER 1/4-20	4
33.	010497	PLUG, 1/4 NPT BI SQ. PIPE	1
34.	024984	PIVOT, FOOT SPEED CONTROL	2
35.	010131	PIN, COTTER 1/16 x 1	2

2A OPERATIONS

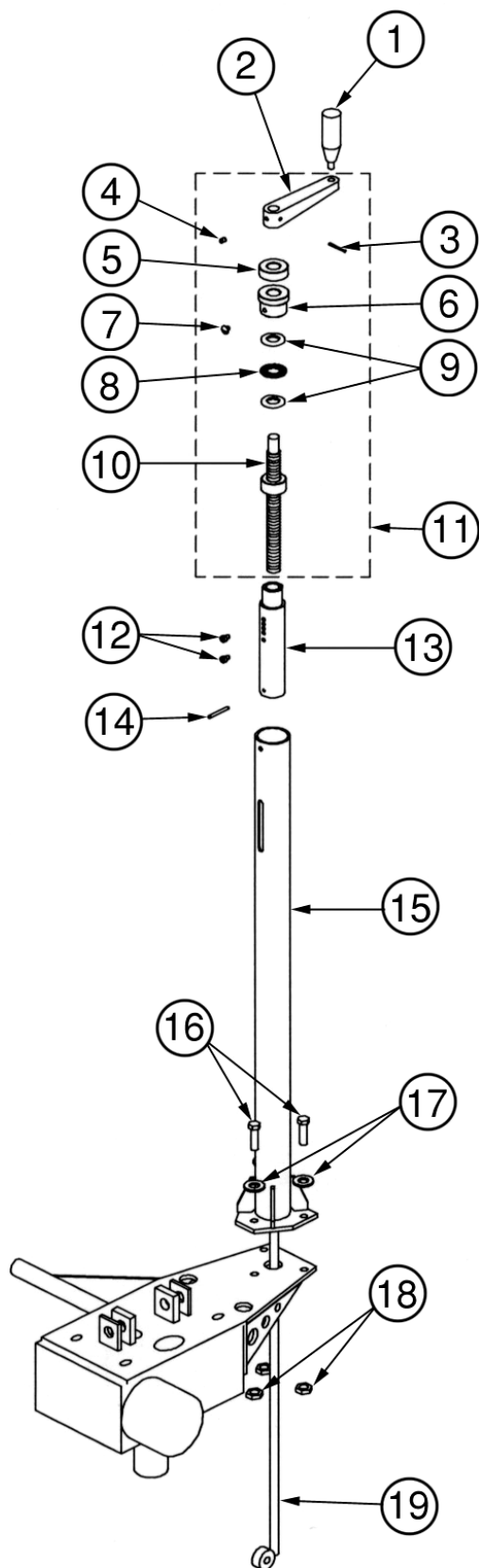
CROSSHEAD AND PIVOT BOX ASSEMBLY



CROSSHEAD AND PIVOT BOX ASSEMBLY (cont'd)**2A
OPERATIONS**

ILL.	PART #	DESCRIPTION	QTY.
1.....	.026945R	CROSSHEAD RH	.1
2.....	.026945L	CROSSHEAD LH	.1
3.....	.026970	ARM, CROSSHEAD RH	.1
4.....	.026970	ARM, CROSSHEAD LH	.1
5.....	.028326R	BOX, CROSSHEAD RH	.1
6.....	.033927	BOX, CROSSHEAD LH	.1
7.....	.039190	INSERT, CONTROL ARM	.6
8.....	.020915	BOLT, 5/8-11 x 1 1/2	.10
9.....	.019969	BOLT, 5/8-11 x 1 3/4	.6
10.....	.026248	BUSHING, BRONZE	.4
11.....	.024630	BUSHING, BRASS	.4
12.....	.010095	LW 5/8	.16
13.....	.010070	BOLT, 1/2-13 x 1-3/4	.2
14.....	.010093	LOCK WASHER 1/2	.2
15.....	.032875	BOLT, 3/8-16 x 1 1/4"	.4
16.....	.010091	LW 3/8"	.4
17.....	.026178	BOLT, CROSSHEAD MOUNTING 3/4-10 x 7 3/16"	.2
18.....	.026447	NUT, SELFLOCK THIN 3/4-10	.6
19.....	.026178	BOLT, CROSSHEAD MTG. 3/4-10 x 1 3/4"	.4
20.....	.018511	GREASE FITTING 1/4-28 ST.	.2
21.....	.029529	PLUG, PLASTIC P-8 1/8-27	.2
22.....	.026842	PLUG, RUBBER	.4
23.....	.026463	PLUG, 1" CHROME	.10
24.....	.026462	PLUG, 1/2" CHROME	.8

PITCH CONTROL ASSEMBLY

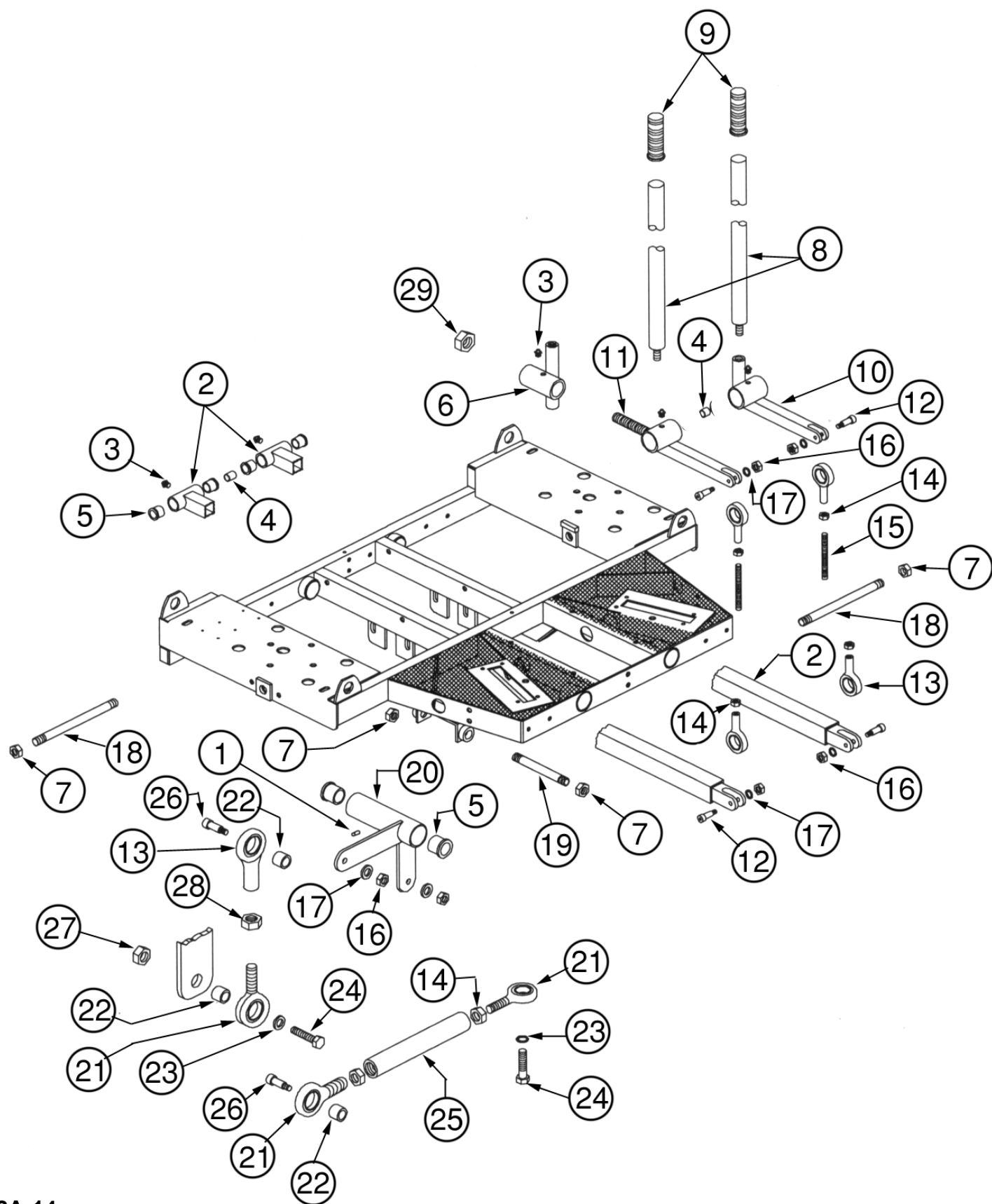


PITCH CONTROL ASSEMBLY (cont'd)

2A OPERATIONS

ILL.	PART #	DESCRIPTION	QTY.
1.	032115	KNOB, PITCH CONTROL	1
2.	037693	HANDLE, PITCH CONTROL	1
3.	018289	PIN, ROLL 3/16 x 1 1/4	1
4.	013374	SOCKET HEAD SET SCREW 14-28 x 1/4	1
5.	015742	BEARING, THRUST	1
6.	036914	BUSHING	1
7.	015410	SCREW, SET 1/4-20 x 3/8	1
8.	100340	BEARING, THRUST (NTA-1220)	1
9.	012710	BEARING, THRUST RACE	2
10.	032157	ASSEMBLY, STOP AND THREADED ROD	1
11.	037801	HANDLE ASSEMBLY	2
12.	015768	SET SCREW 1/4-20 x 1/4	2
13.	029812	BUSHING, SLIDE	1
14.	015747	PIN, SPIRAL 3/16 x 1 1/2	1
15.	037724	TUBE AND PLATE ASSEMBLY	1
	038176	TUBE AND PLATE ASSEMBLY (SP400-PST)	1
16.	010036	BOLT 3/8-16 x 1	3
17.	017751	FW HARD 3/8	3
18.	010464	NUT, NYLOK 3/8-16	3
19.	037722	PITCH CONTROL SHAFT	1
	037799	PITCH CONTROL ASSEMBLY	2
	038174	PITCH CONTROL ASSEMBLY F/ PST	2

STEERING LEVER ASSEMBLY

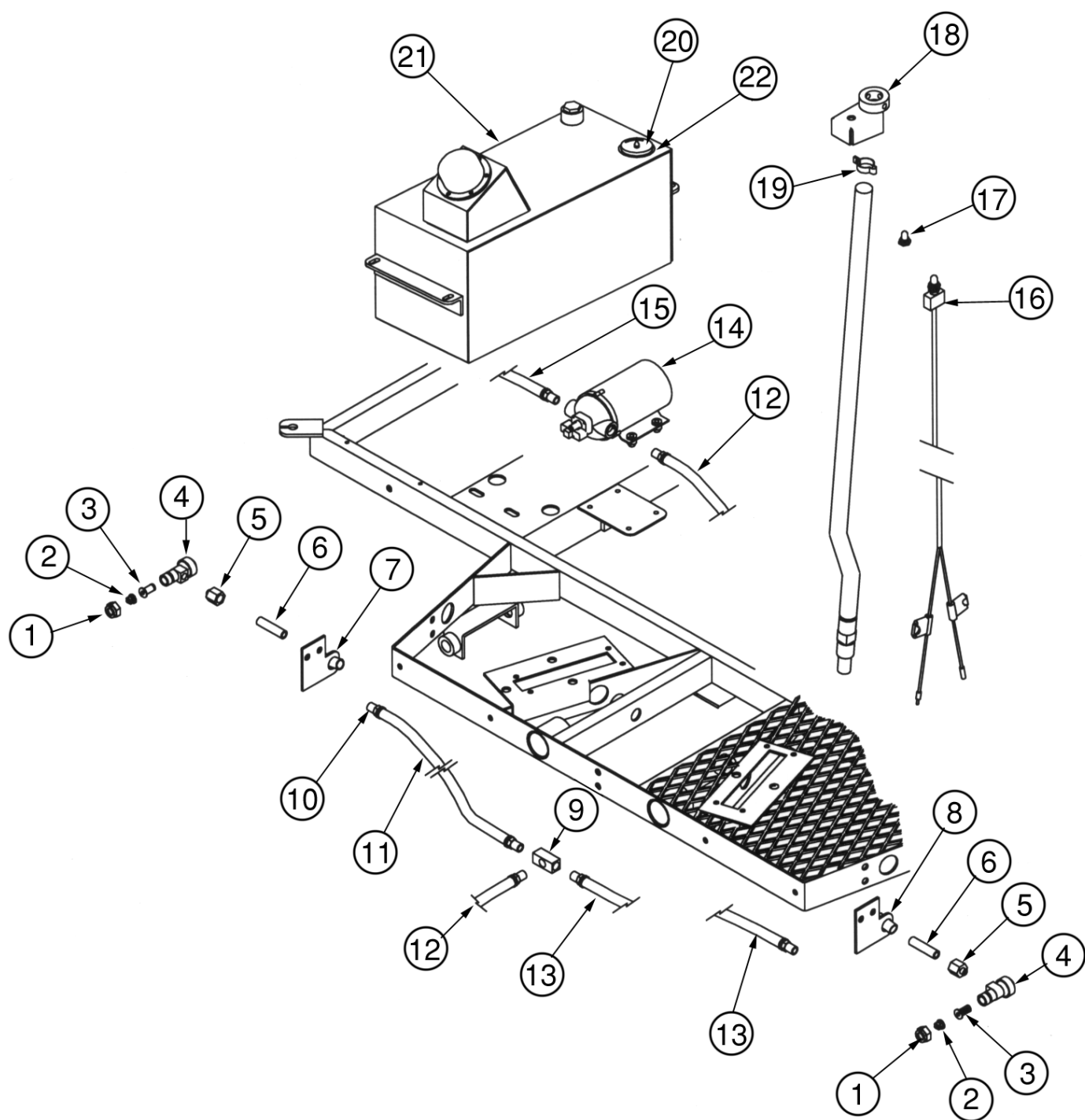


STEERING LEVER ASSEMBLY (cont'd)**2A
OPERATIONS**

ILL.	PART #	DESCRIPTION	QTY.
1.	018510	GREASE FITTING 1/4-28 x 45 DEG.	1
2.	026954	LOWER CONTROL ARM	2
3.	201163	GREASE FITTING 1/8-27 NPT STRAIGHT	5
4.	026205	SPACER, CONTROL ARM	2
5.	037929	OPERATOR LEVER, UPPER	1
6.	026447	NUT, SELFLOCK 3/4-10 NC	6
7.	037931	JOYSTICK -- OPERATOR LEVER	2
8.	037668	GRIP, HANDLE	2
9.	037926	OPERATOR LEVER, LOWER LH	1
10.	037929	OPERATOR LEVER, LOWER RH	1
11.	026267	BOLT, SHOULDER 1/2 x 1	4
12.	019900	ROD END, 1/2 FEMALE	1
13.	010107	NUT, HEX 1/2-20 NF	6
14.	026784	CONTROL ARM	2
15.	010464	NUT, NYLON LOCK 3/8-16	6
16.	017751	LOCK WASHER (HDN) 3/8	2
17.	034442	SHAFT, CONTROL LEVER MTG.	2
18.	026272	SHAFT, FULCRUM ARM	1
19.	039224	FULCRUM	1
20.	221408	ROD END, 1/2 MALE	7
21.	026412	SPACER	3
22.	010093	LOCK WASHER 1/2	1
23.	010070	BOLT, 1/2-13 x 1-3/4	2
24.	026971	TUBE, CONTROL ARM RH	1
25.	026268	BOLT, SHOULDER 1/2 x 1-3/4	2
26.	011238	NUT, HEX NYLON 1/2-13	1
27.	010051	NUT, JAM 1/2-20	1
28.	026447	NUT, CASTLE	1

2A OPERATIONS

SPRAY SYSTEM ASSEMBLY



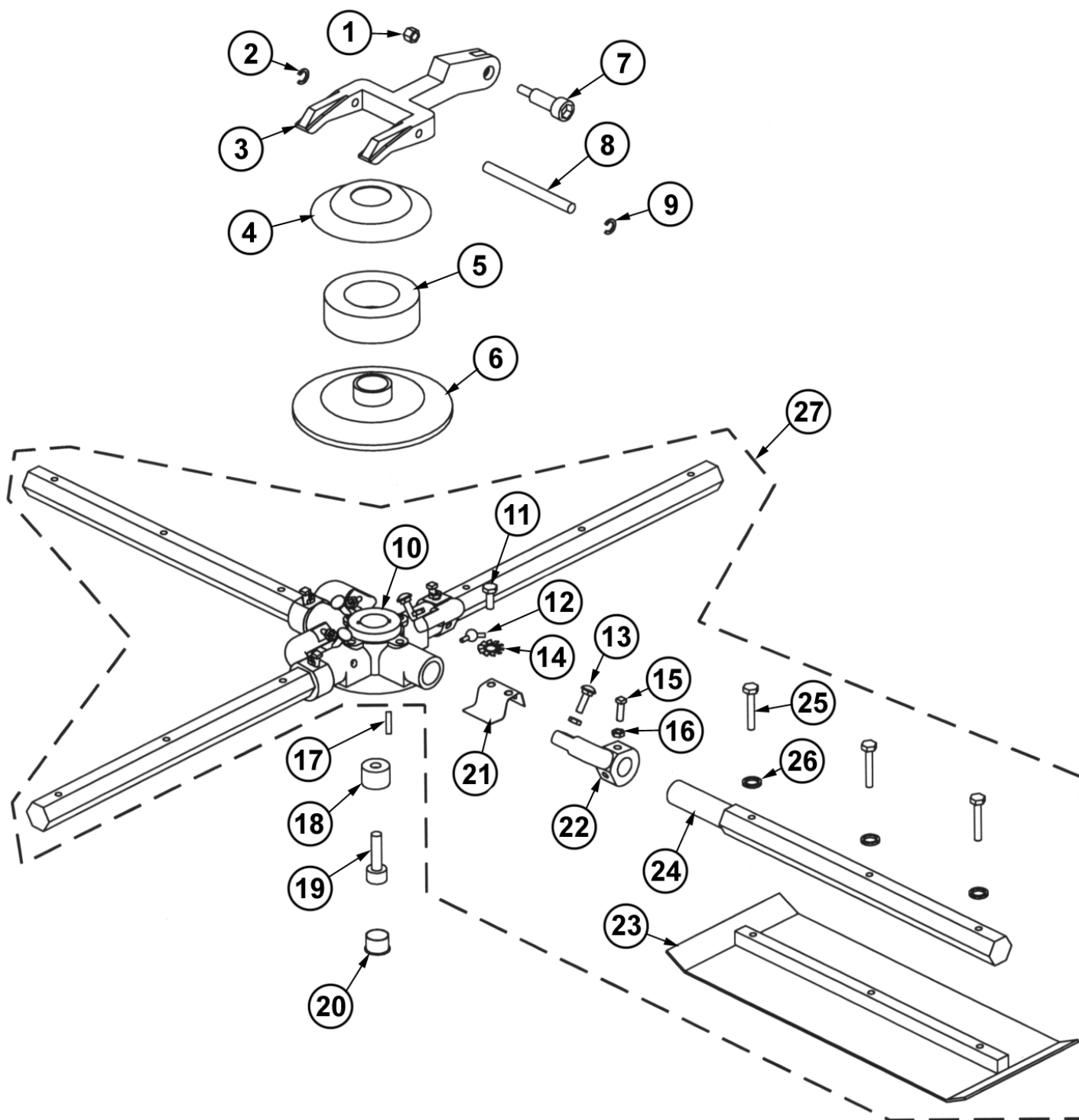
SPRAY SYSTEM ASSEMBLY (cont'd)

2A OPERATIONS

ILL.	PART #	DESCRIPTION	QTY.
1.	012705	CAP, BRASS CP1325	.2
2.	012702	TIP, SPRAY #8001 (FINE)	.2
3.	012706	STRAINER, 5053100SS	.2
4.	012704	VALVE, SPRAY RELIEF	.2
5.	111001	FITTING, FATIGUE	.2
6.	013499	NIPPLE, 1/4 x 2	.2
7.	026930	BRACKET, SPRAY NOZZLE RIGHT HAND	.1
8.	026931	BRACKET, SPRAY NOZZLE LEFT HAND	.1
9.	036937	TEE, 1/4 BRASS	.2
10.	010194	FITTING, MALE PUSHLOK	.8
11.	013392	HOSE, PUSHLOK 3/8	1.17 L/F
12.	013392	HOSE, PUSHLOK 3/8	.67 L/F
13.	013392	HOSE, PUSHLOK 3/8	2.83 L/F
14.	033735	PUMP, F/ SPRAY SYSTEM	.1
15.	013392	HOSE, PUSHLOK 3/8	3.25 L/F
16.	037485	HARNESS WIRE F/ SPRAY SYSTEM	.1
17.	037480	BOOT, TOGGLE	.1
18.	037483	SWITCH MOUNT BRKT	.1
19.	037681	CLAMP, WIRE F/ SPRAY SYSTEM	.1
20.	038955	GAUGE, WATER SPRAY TANK	.1
21.	037711	TANK	.1
	035547	TANK, WATER F/ SP400 (NOT SHOWN)	.1
	036801	TANK, HYDRAULIC (NOT SHOWN)	.1
22.	034111	GASKET, F/ GAUGE	.1

2A OPERATIONS

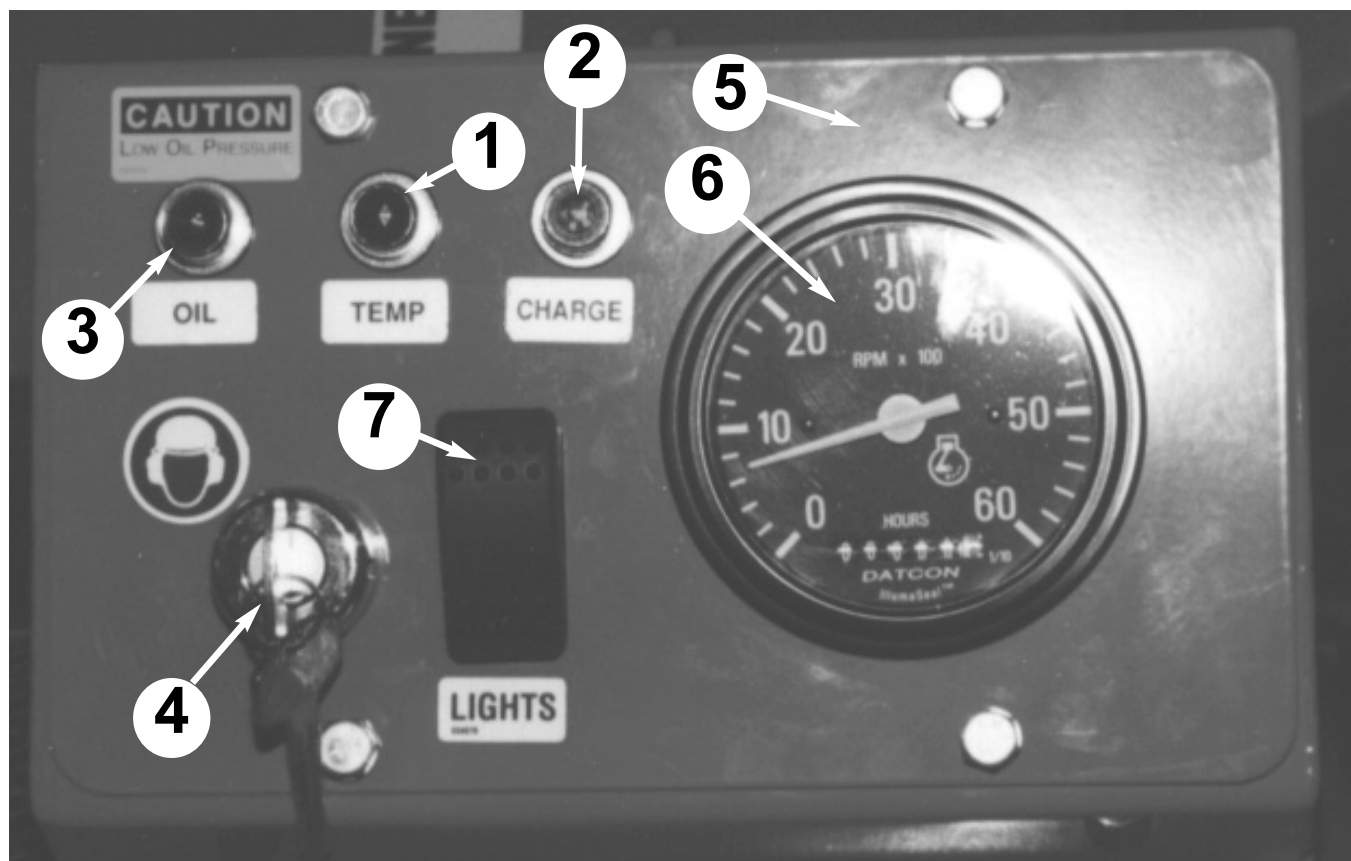
SPIDER ASSEMBLY



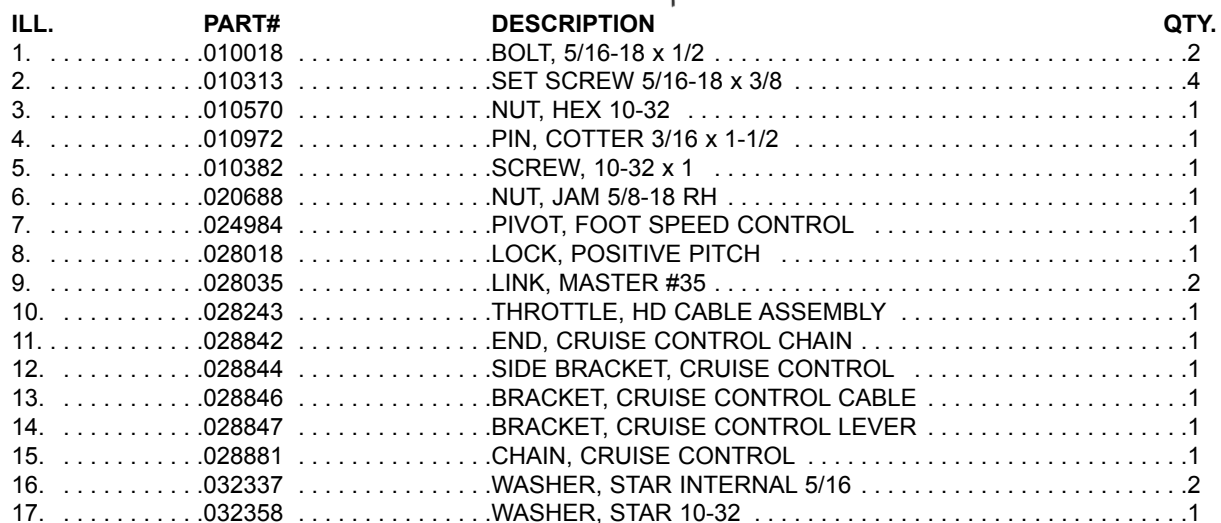
ILL.	PART #	DESCRIPTION	QTY.
1.	.012612	NUT, HEX SELFLOCK 5/16-18	1
2.	.015677	E-RING RETAINER	1
3.	.026215	ARM, YOKE	1
4.	.037649	PRESSURE PLATE CAP	1
5.	.037676	BEARING, THRUST	1
6.	.037653	PLATE, PRESSURE	1
7.	.026504	BOLT, SHOULDER 3/8 x 1-1/4 W/ 5/16-18 THDS	1
8.	.015678	PIN, YOKE ARM RETAINER 7/16 x 7-3/8	1
9.	.015677	E-RING RETAINER (SAME AS ILL.# 2)	1
10.	.026942	BOSS F/ SPIDER RIGHT HAND	1
	.026943	BOSS F/ SPIDER LEFT HAND	1
11.	.015683	SCREW, DOG CAP 3/8-16 x 7/8	4
12.	.024755	GREASE FITTING 1/8-27 NPT 45°	4
	.015692	PLUG, PLASTIC CAP #GC-5 (NOT SHOWN)	4
13.	.012990	BOLT, CARRIAGE 3/8-18 x 1-1/4	4
14.	.015682	LOCK WASHER EXTERNAL STAR 3/8	4
15.	.015686	SET SCREW SQ. HEAD 3/8-16 x 1	4
16.	.015684	NUT, JAM 3/8-16	8
17.	.026227	KEY, 3/8 x 1	1
18.	.037652	WASHER RETAINING	1
19.	.015691	SCREW, SOCKET HEAD 1/2-13 x 1 1/2 LH	1
	.020155	SCREW, SOCKET HEAD 1/2-13 x 1 1/2 RH	1
20.	.015693	PLUG, PLASTIC CAP EC-12	2
21.	.016920	CLIP, SPRING UNIVERSAL	4
22.	.033032	LEVER, LIFT UNIVERSAL STD	4
23.	.028778	BLADE, 8 x 18 FINISH	4
24.	.034645	ARM, SPIDER F/ 1200	4
25.	.010024	BOLT, 5/16-18 x 2 GR. 5	12
26.	.010090	LOCK WASHER 5/16	12
27.	.037645	SPIDER ASSEMBLY F/ SP400 RIGHT HAND	1
	.037646	SPIDER ASSEMBLY F/ SP400 LEFT HAND	1

2A OPERATIONS

CONTROL PANEL ASSEMBLY

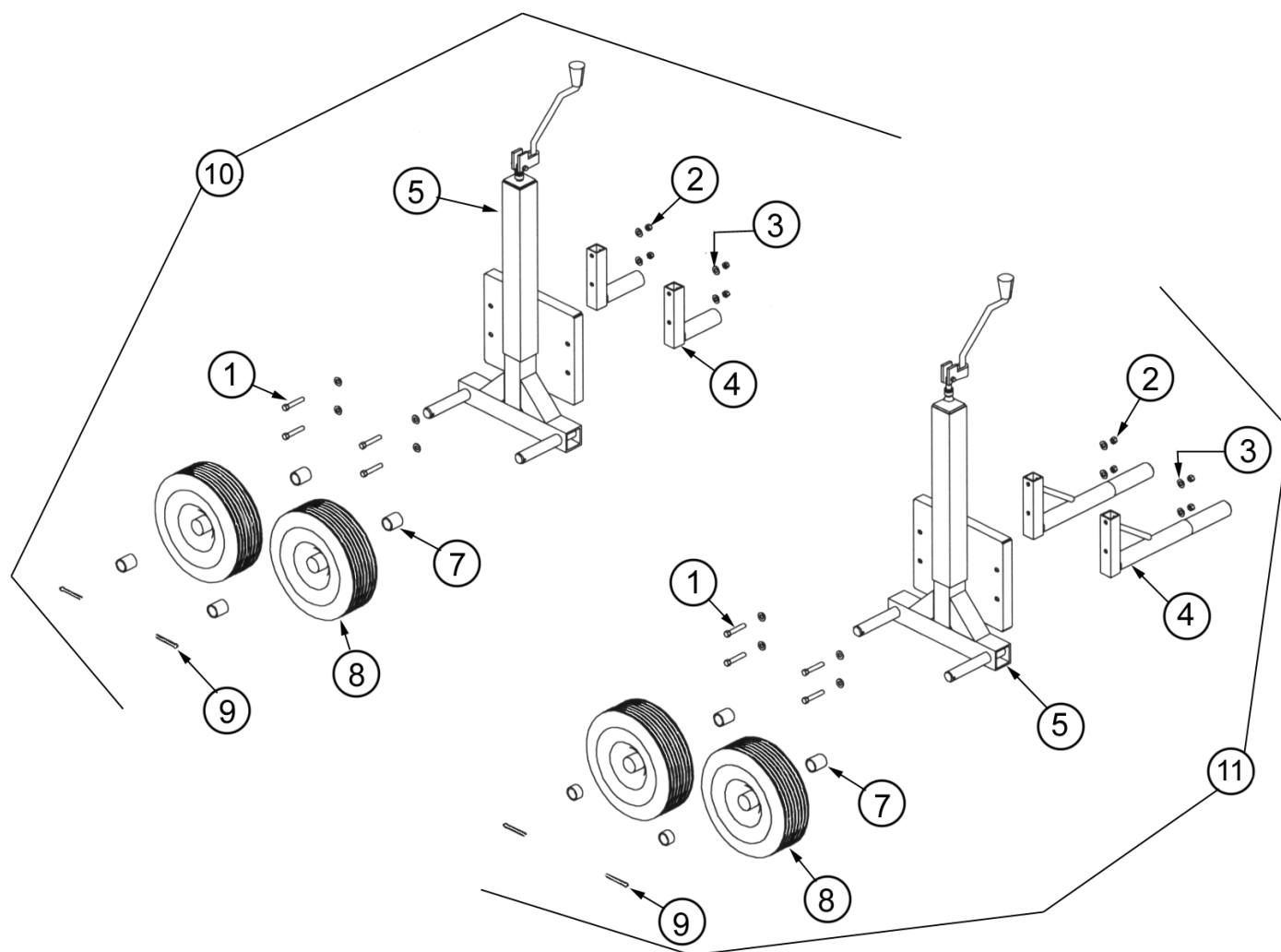


ILL.	PART#	DESCRIPTION	QTY.
1.	.034613	LENS, GREEN	.1
2.	.034612	LENS, AMBER	.1
3.	.034614	LENS, RED	.1
4.	.037785	KEY SWITCH	.1
5.	.037761	CONTROL PANEL	.1
6.	.038417	TACHOMETER	.1
7.	.032125	SWITCH, ROCKER	.1
8.	.034610	FIXTURE, LIGHT	.3
11.	.034611	LIGHT (NOT SHOWN)	.3
12.	.034876	DECAL, "LIGHTS"	.1
13.	.036772	DECAL, "OIL"	.1
14.	.036771	DECAL, "TEMP"	.1
15.	.036770	DECAL, "CHARGE"	.1
16.	.036768	DECAL, "GLOW PLUG"	.1



2A OPERATIONS

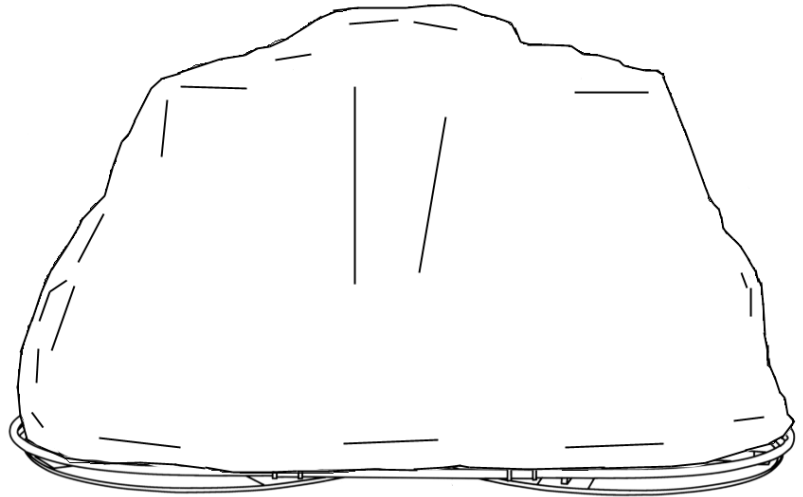
ACCESSORIES (cont'd) SP DOLLY JACK SYSTEM -- SET PART # 039090



ILL.	PART#	DESCRIPTION	QTY.
1.	.010041	BOLT, 3/8-16 x 2 1/4	8
2.	.010464	NUT, NYLON LOCK 3/8-16	8
3.	.017751	FLAT WASHER 3/8	8
4.	.026729	DOLLY JACK MOUNTING TUBES (FRONT)	2
	.026728	DOLLY JACK MOUNTING TUBES (REAR)	2
5.	.026938	DOLLY JACK	2
6.	.039091	WELDMENT SP DOLLY JACK	1
7.	.039094	WHEEL SPACER	4
8.	.039095	WHEELS	4
9.	.010133	PIN, COTTER 3/16 x 2	8

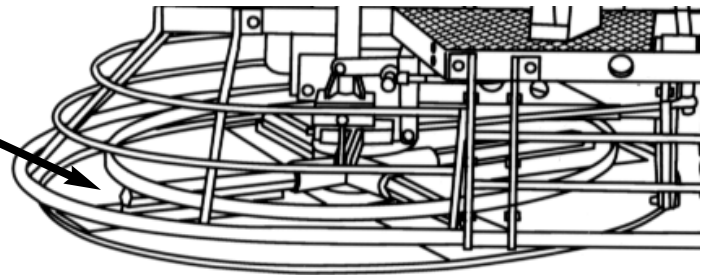
RIDING
TROWEL
VINYL COVER

PART #: 038035



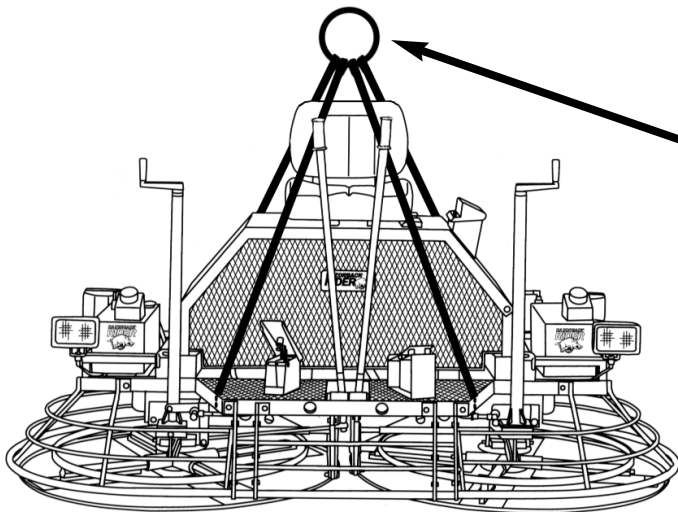
FLOATING
DISCS (PANS)

PART #: 026912



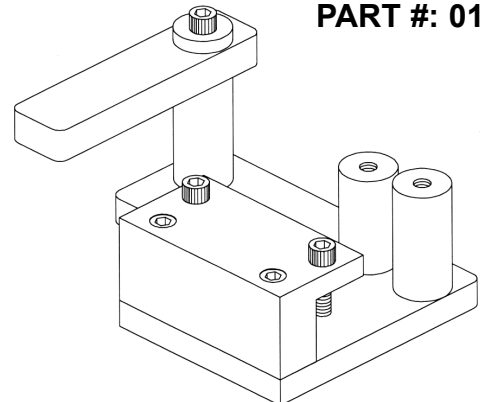
LIFTING
BRIDLE
(SLING TYPE)

PART #: 035461



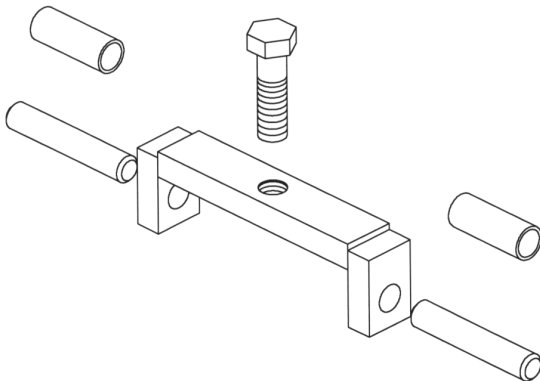
TROWEL ARM
ALIGNMENT JIG

PART #: 016863



SPIDER
PULLER
ASSEMBLY

PART #: 035688



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POWER SCREEDS

STEEL

12 SX
12 HD
12 SHD
12 ED
12 HED
12 SHED
12 QD

ALUMINUM

12 ECA
12 ECS
10 QX



FLOATER SCREEDS

ROLLER SCREEDS

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MATERIAL SPREADERS

WALK-BEHIND TROWELS

430
430 Edger
436
442
446
446 SD



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