



AR16 & AR21 WHEEL BUGGY

PARTS & DECALS MANUAL

MANUAL PART #: 055838P | REVISION: F

For information regarding the following, please see “AR16 & AR21 - Safety & Operator Manual”

- Warranty Information
- Dealer Information
- How to identify the Model / Serial Numbers on the machine
- Engine Detail

OPERATIONS-PARTS

MANUAL

This manual covers the products listed below:

<u>Part No.</u>	<u>Description</u>
058801	BUGGY AR16 POLY BUCKET 13HPR FOAM
058802	BUGGY AR16 POLY BUCKET 13HPE FOAM
058809	BUGGY AR16 STEEL BUCKET 13HP RECOIL
058810	BUGGY AR16 STEEL BUCKET 13HP ELEC
058803	BUGGY AR21 POLY BUCKET 20HPE FOAM
058813	BUGGY AR21 STEEL BUCKET 20HPE FOAM

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Section 1

PARTS

SECTION 1 PARTS

Factory Service Information

This section contains the illustrated drawings and parts list for help in identifying and/or ordering replacement parts for your machine. Follow the instructions in the front section of this manual "Ordering Parts" when ordering replacement parts to insure prompt and accurate delivery.

NOTE

All set screws have blue (LOC-TITE™) applied at the factory.
If set screw is removed or loosened for any reason re-apply blue (LOC-TITE™).

NOTE

All grease fittings are capped with CAP PLUG GC-5(AEC PN 015692) to protect the fitting. If cap becomes missing or damaged replace it as soon as possible.
Anti-Seize is applied at the factory to all drive line coupling,

NOTE

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.

We recommend AEC quality replacement parts, available from the AEC Customer Service Department or your nearest AEC Dealer.

Part numbers are subject to change without notice. Part numbers might be different outside of the United States of America. Use part numbers listed in the applicable parts list table when you place your order. If a part number changes, the AEC Customer Service Department or your nearest AEC dealer will have the latest part number for the replacement part.

Remember when you order replacement parts, you will need your model number and serial number. These are the numbers that you have recorded in the UNIT ID section of this manual. Please order replacement parts by the appropriate part number, not the key number.

This manual contains an illustrated parts list for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

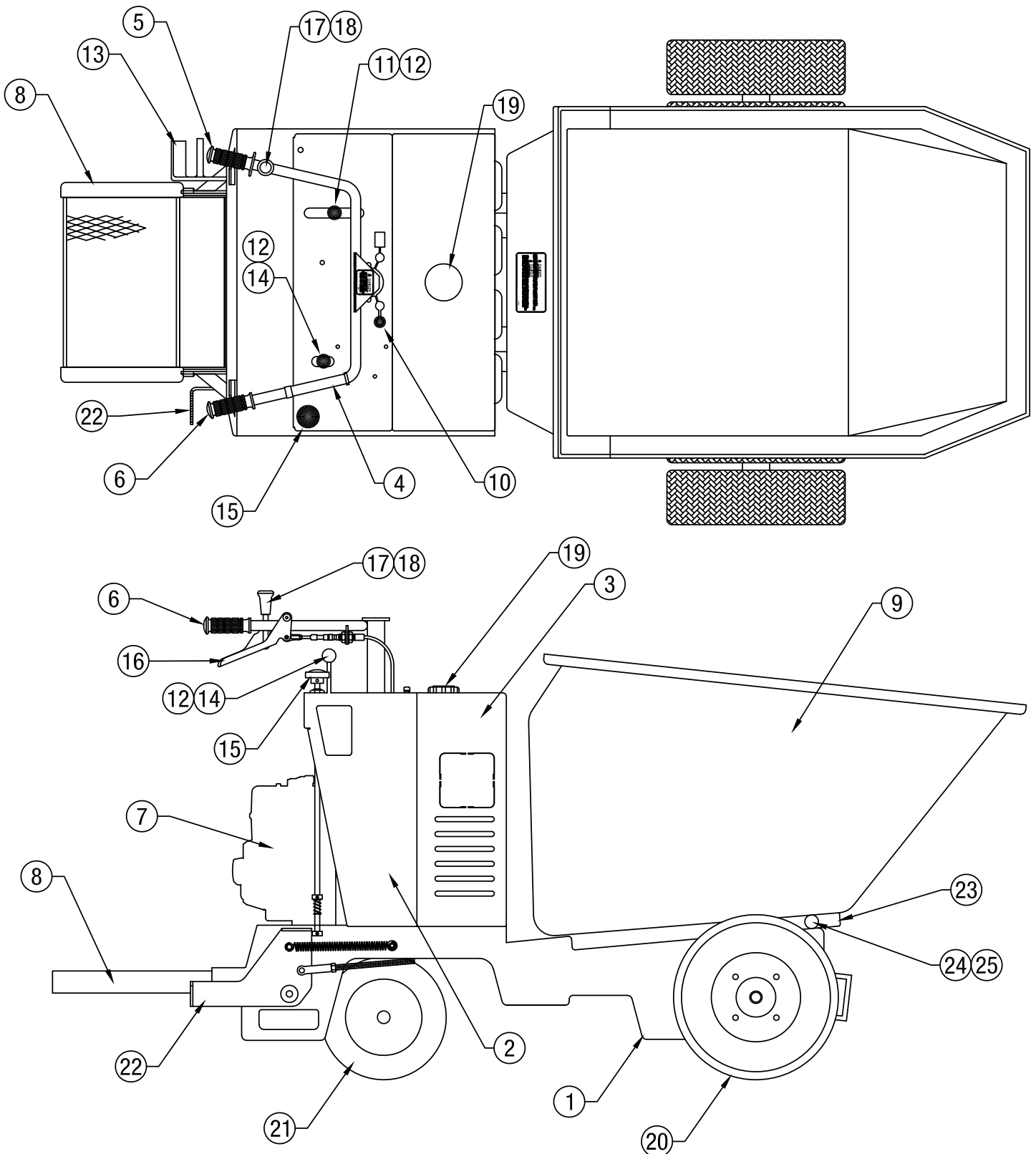
1. All orders for service parts - include the serial number for the machine. Shipment will be delayed if this information is not available.
2. Include correct description and part number from the "PARTS" Section 4.
3. Specify exact shipping instructions, including the preferred routing and complete destination address.
4. **DO NOT** return parts to AEC without receiving written authorization from AEC. All authorized returns must be shipped pre-paid.
5. When placing an order, please contact the AEC Dealer nearest you.

NOTE

All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.

SECTION 1 PARTS

1.1 - General Arrangement, Illustration



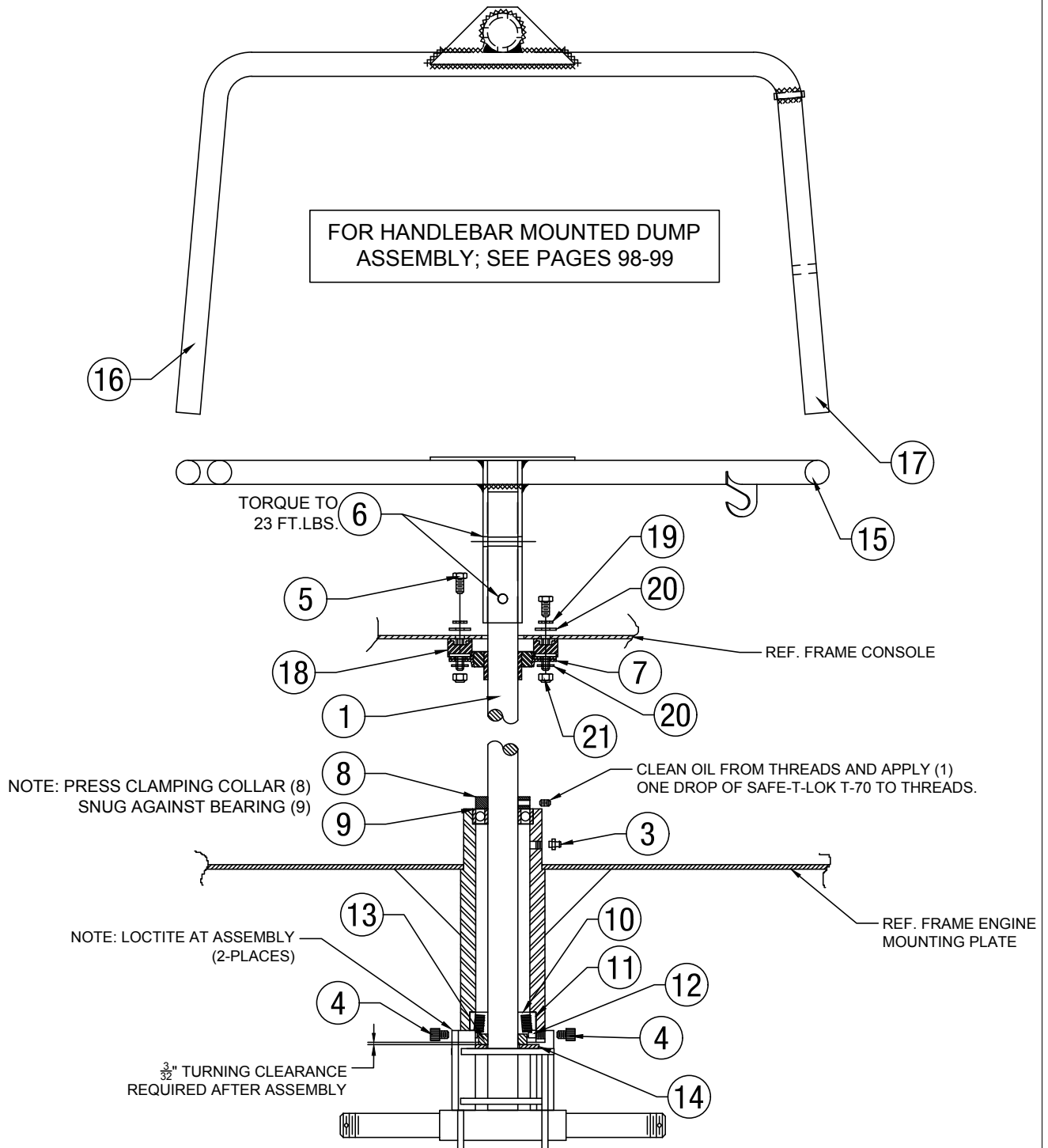
1.1 - General Arrangement, Parts List

SECTION 1 PARTS

ITEM	PART#	DESCRIPTION	QTY
1	42100-36	Main Frame	1
2	42100-38	Console	1
3	42108-01	Hydraulic Reservoir Cover	1
4	42126-01	Standard Handle Bar Less Grips	1
5	42102-07	LH Handle Bar Grip	1
6	42102-08	RH Handle Bar Grip with Trimmed Flange	1
7	EN0600	13HP Honda Recoil Start Engine	1
	EN1700	13HP Honda Electric Start Engine	1
	45320-09	20 HP Honda Electric Start Engine for AR21	1
	42124-01	DISCONTINUED - 18 HP Honda Electric Start Engine- AR21	1
8	42115-01	Operator's Platform	1
9	42106-03	16 ft ³ Polyurethane Bucket- AR16	1
	42105-01	16 ft ³ Steel Bucket - AR16	1
	42122-01	21 ft ³ Polyurethane Bucket - AR21	1
	42121-08	21 ft ³ Steel Bucket - AR21	1
10	45049-25	Pushbutton, E-Stop for RECOIL START - 1 NO Contact (for machines built AFTER Serial #G-16595) [see Page 101 for more detail]	1
	45043-04	Pushbutton, E-Stop for ELECTRIC START - 1 NO & 1 NC Contacts (for machines built AFTER Serial #G-16595) [see Page 102 & 106 for more detail]	1
	EM0100	Pushbutton, Emergency Stop (for machines PRIOR to Serial #G-16596)	1
11	42117-02	Dump Lever	1
12	MS2100	Ball Knob	1
13	42117-17	Foot Operated Dump Pedal	1
14	42103-65	Handle for Directional Control Valve	1
15	42101-71	Parking Brake Knob	1
16	42107-25	Speed Control Lever	1
17	42126-18	Handlebar Mounted Bucket Dump Handle	1
18	42126-21	Knob for Handlebar Mounted Dump	1
19	FI0350	Cap, Breather (for Hydraulic Tank, with Dipstick)	1
20	42113-20	Foam Filled Drive Tire with Wheel	4
	42113-06	Pneumatic Drive Tire with Wheel	4
21	42113-21	Foam Filled Steering Tire with Wheel	2
	42113-02	Pneumatic Steering Tire with Wheel	2
22	42101-44	Brake Pedal	1
23	42110-02	Bucket Base Plate AR16	1
	063321	Bucket Base Plate AR21	1
24	42110-11	Pivot Pin for Bucket Base Plate	1
25	42110-16	Clamp Collar for Bucket Base Plate	1

SECTION 1 PARTS

1.2 - Steering Column, Illustration



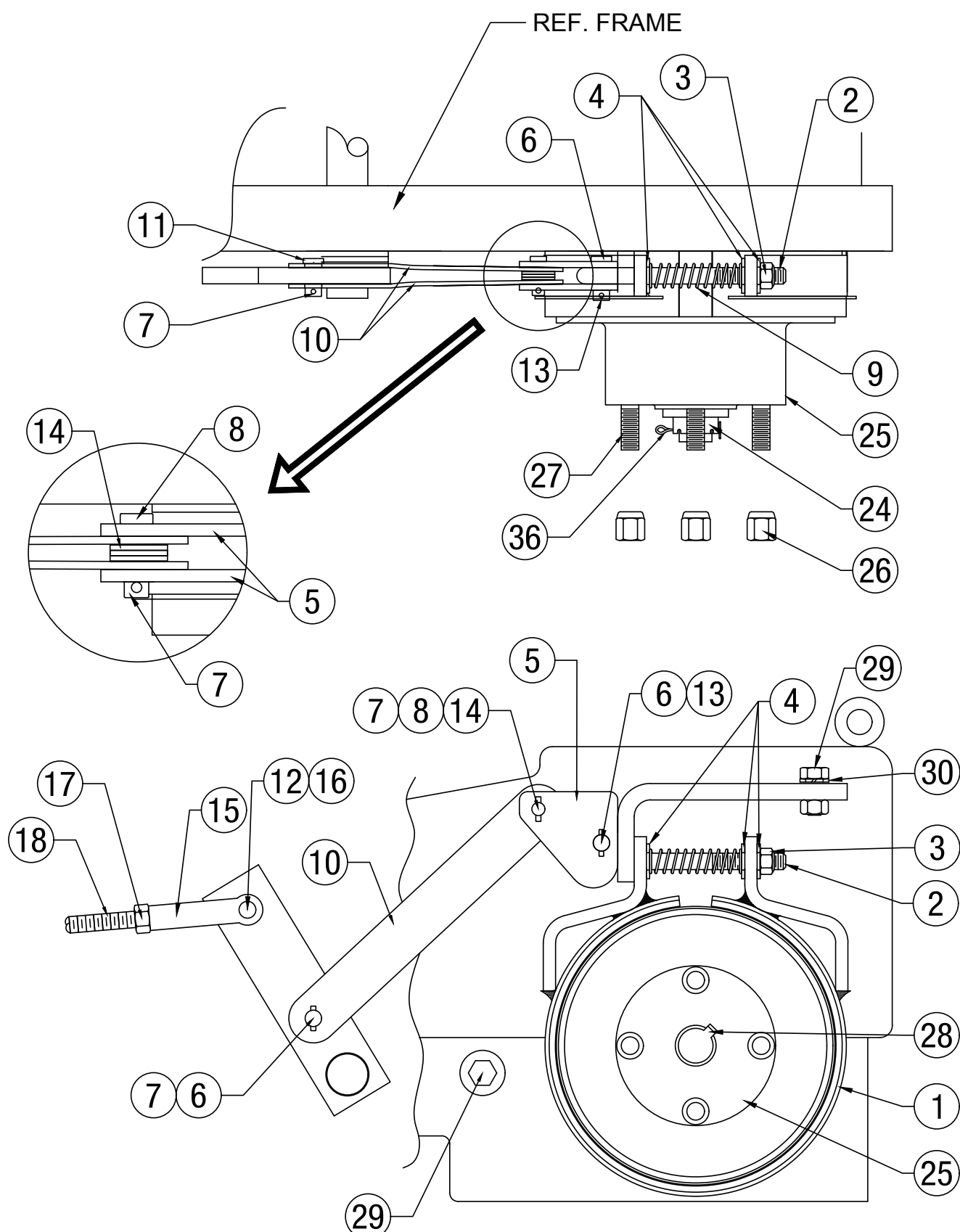
1.2 - Steering Column, Parts List

SECTION 1 PARTS

ITEM	PART#	DESCRIPTION	QTY
1	32100-01	Steering Column	1
2	32100-05	Spring Pin. [NOT SHOWN] (Used on all machines built prior to November 2006)	2
3	015681	Fitting, Grease, 90°	1
4	42100-17	Stop Bolt. 5/16"NC Socket Head Cap Screw X 3/8" LG. Grade 8	2
5	010019	Fastener, HHCS, 5/16"-18 x 3/4", Grade 8	2
6	040637	Hex Head Cap Screw. 3/8"NC X 2-1/4"LG. with Lock Nut	2
7	32100-08	Flanged Bearing	1
8	C00100	Clamping Collar	1
9	BE1400	Ball Bearing	1
10	BE1200	Bearing Cone	1
11	BE1300	Bearing Cup	1
12	MS3700	Grease Seal	1
13	32100-15	Spacer	1
14	32100-16	Flat Washer	1
15	42126-01	Handlebar	1
16	42102-07	Handlebar Grip, Untrimmed.	1
17	42102-08	Handlebar Grip, Trimmed.	1
18	32100-21	Stud Mounted Rubber Isolator	2
19	010090	Fastener, Lock Washer, 5/16", Grade 8	2
20	010082	Fastener, Flat Washer, 5/16", Grade 8	4
21	040004	Fastener, Hex Nut, Stover, 5/16"-18	2
22	42126-09	Washer, Rubber (NOT SHOWN)	1



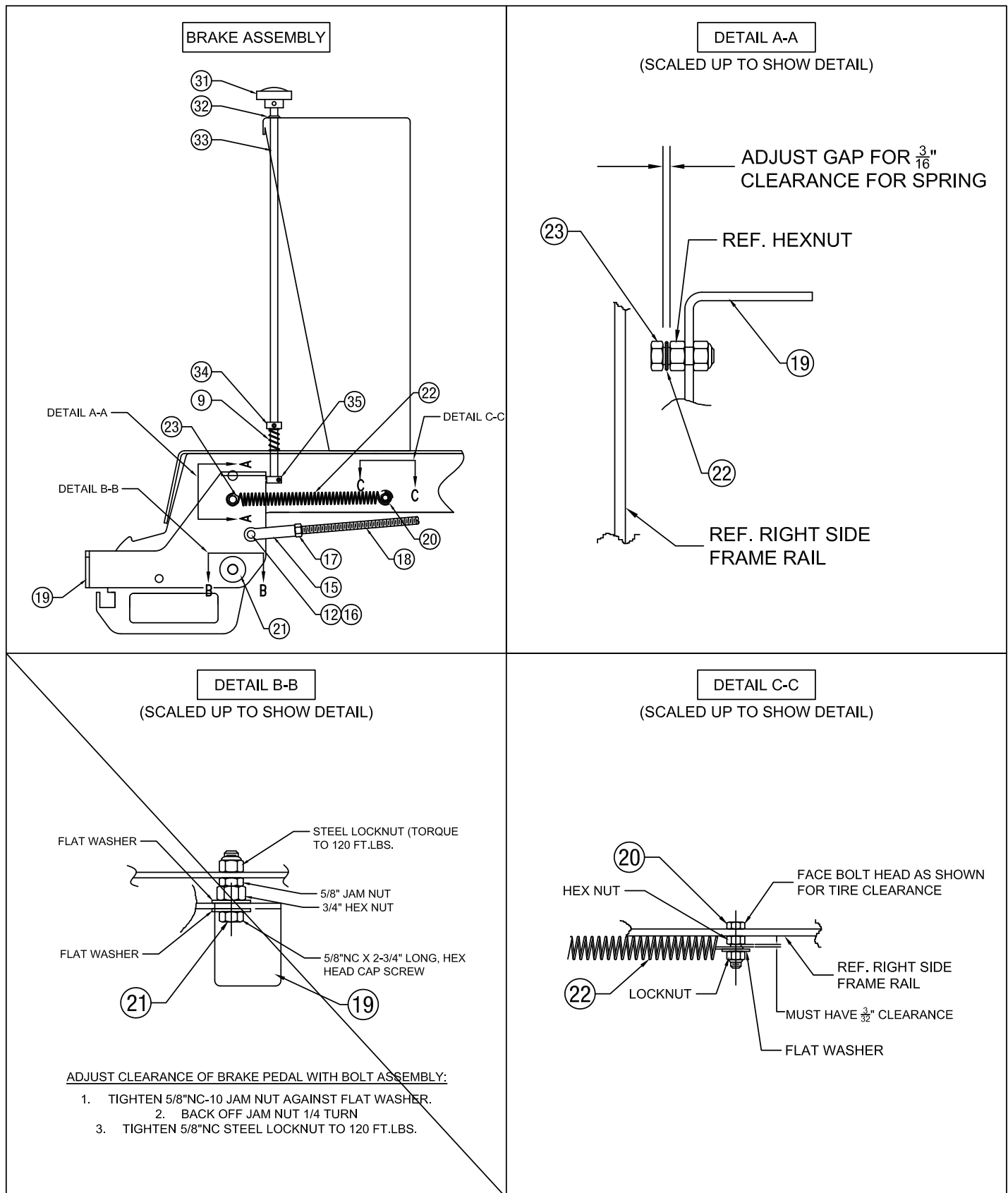
1.3 - Service & Parking Brake, Illustration



Parts List Located on Page 82

1.3 - Service & Parking Brake, Illustration, continued

SECTION 1 PARTS



Parts List Located on Following Page

SECTION 1 PARTS

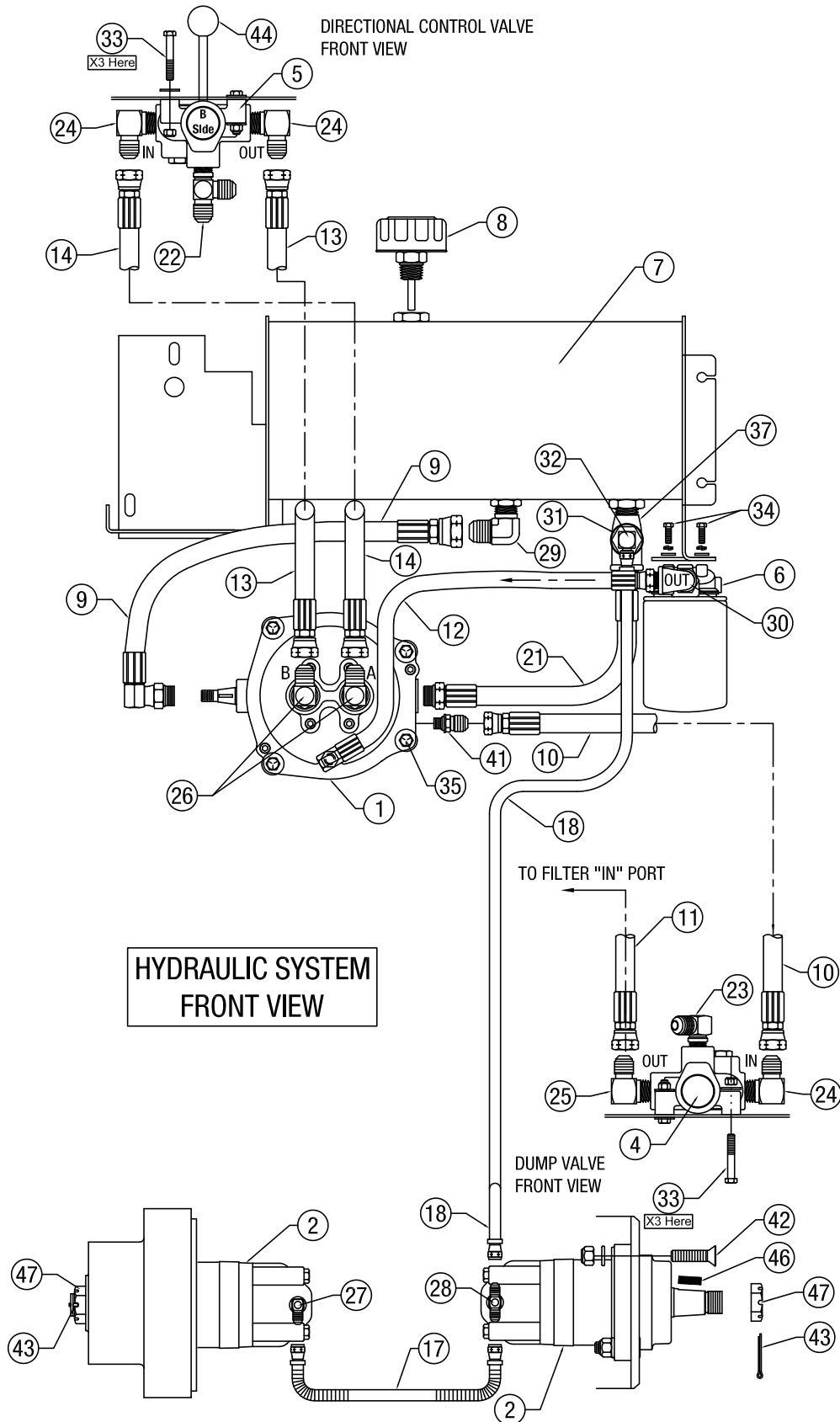
1.3 - Service & Parking Brake, Parts List

ITEM	PART#	DESCRIPTION	QTY
1	42101-02	Brake Band	2
2	42101-15	"J" Bolt	2
3	42101-16	1/2" NC-13 Nylock Locknut, Grade 2/IFI-100/107 No Substitutes	2
4	011490	1/2" SAE Plated Flat washer	12
5	42101-18	Brake Cam (replace in matched pairs only)	4
6	42101-19	Case Hardened Clevis Pin x 1-5/16" Overall Length. No Substitutes	4
7	42101-20	5/32" Diameter X 3/4" Lg. Spring Pin. No Substitutes - Do not use cotter pin	4
8	42101-22	Clevis Pin x 1-1/8" Overall Length	2
9	SN0150	Compression Spring	3
10	42101-28	Brake Cam Link Arm	4
11	-	-	-
12	42101-31	1/8" x 3/4" Cotter Pin	2
13	42101-32	3.5mm x 20mm Lg. Spring Pin. No Substitutes. Do not use cotter pin.	2
14	017751	3/8" USS Flat Washer	4
15	MS3900	Adjustable Yoke End	2
16	MS3800	Yoke Pin	2
17	01 0106	1/2" NC Hex Nut	2
18	42101-38	Brake Rod. Plated. All Thread SAE Grade 2 minimum. No substitutes	1
19	42101-44	Brake Pedal	1
20	42101-46	Bolt Assembly. 3/8" NC-16 x 1-1/2" Lg. HHCS with USS Flat Washer, Lock Nut, and Hex Nut.	1
21	42101-47	Bolt Assembly. 5/8" NC-10 x 2-3/4" Lg. HHCS with 3/4" NC Hex Nut, 5/8" NC-10 Jam Nut, 5/8" NC-10 Steel Lock Nut, two(2) 5/8" SAE Flat Washers.	1
22	42101-48	Spring, Brake Pedal Return	1
23	42101-49	Bolt Assembly. 1/2" NC-13 x 1-1/2" Lg. HHCS with Lock Nut and Hex Nut.	1
24	42103-64	1"-20 Castle Nut for Hydraulic Wheel Motor	2
25	42101-61	Wheel Hub (includes four (4) Wheel studs)	2
26	42113-09	Cone Type Wheel Nut	16
27	42101-63	(REPLACEMENT) Wheel Studs Only for Wheel Hub (4 per Wheel)	8
28	42103-63	(REPLACEMENT) 5/16" Square Key X 1" Long for Wheel Hub (1 per Wheel)	2
29	010068	Fastener, Bolt, HHCS, 1/2"-13 x 1-1/4", Grade 8	4
30	010093	Fastener, Washer, Lock, 1/2", Grade 8	2
31	42101-71	Palm Grip	1
32	42101-72	Grommet	1
33	42101-73	Parking Brake Catch Rod	1
34	42101-74	Set Collar	1
35	42101-75	Clamping Collar	1
36	42103-87	Pin, Cotter, 5/32 x 2"	1

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SECTION 1 PARTS

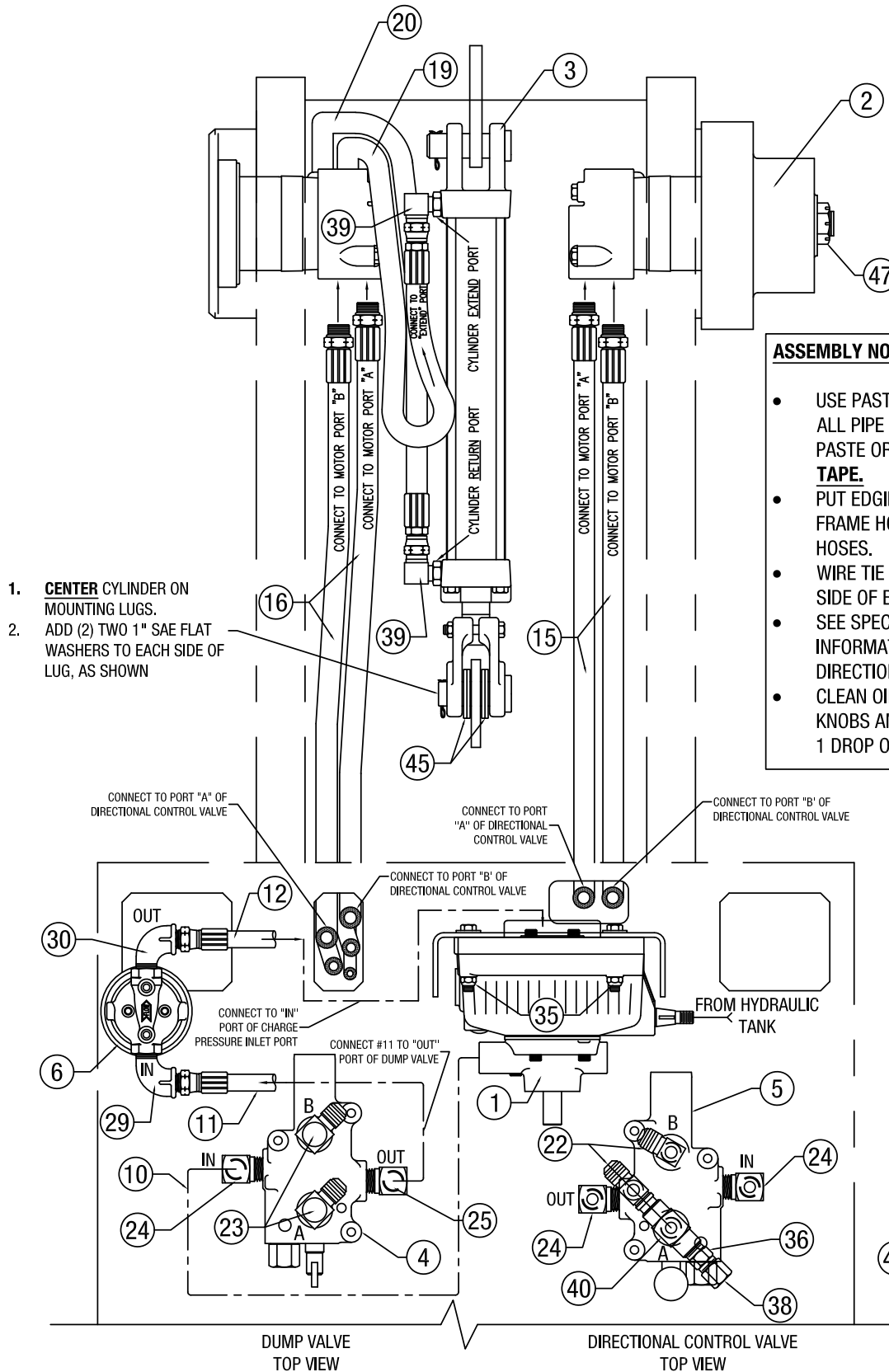
1.4 - Hydraulic System, Illustration



Parts List Located on Page 86 & 87

1.4 - Hydraulic System, Illustration, continued

SECTION 1 PARTS



ASSEMBLY NOTE:

- USE PASTE TYPE DOPE WITH TEFLON ON ALL PIPE THREADS, LA-CO "SLIC-TITE" PASTE OR EQUAL. **DO NOT USE TEFLON TAPE.**
- PUT EDGING MATERIAL AROUND ALL FRAME HOLES BEFORE INSTALLING HOSES.
- WIRE TIE ALL HOSES TOGETHER ON EACH SIDE OF BUGGY, AWAY FROM CYLINDER.
- SEE SPECIAL RELIEF PRESSURE SETTING INFORMATION FOR DUMP AND DIRECTIONAL CONTROL VALVES
- CLEAN OIL FROM THREADS ON BALL KNOBS AND ALL SET SCREWS AND APPLY 1 DROP OF LOCKTITE (592) OR EQUAL.

Parts List Located on Following Page

SECTION 1 PARTS

1.4 - Hydraulic System, Parts List

ITEM	PART#	DESCRIPTION	QTY
1	HM0500	Hydrostatic Pump	1
2	HM0600	Motor, Wheel, MB16/21 (includes: (1) 5/16" square x 1" long key, (1) Castle Nut, 1" x 20 TPI)	2
3	HM0700	*AT16 MODEL* Cylinder, Hydraulic, 2" Diameter Bore	1
	056815	*AT21 MODEL* Cylinder, Hydraulic, 3" Bore (2T301)	1
4	HM0800	Valve, Dump, MB16/21	1
5	HM0900	Valve, Directional Control	1
6	FI0200	Filter Assembly, Spin-on with Element	1
7	42104-1	Hydraulic Reservoir (Tank)	1
8	FI0350	Cap, Breather (for Hydraulic Tank, with Dipstick)	1
9	061055	Hose Assembly, 17" Long, Straight-90°	1
10	HH1700	Hose Assembly, 20" Long	1
11	061061	Hose Assembly, 16" Long	1
12	061060	Hose Assembly, 18" Long, Straight-90°	1
13	HH1900	Hose Assembly, 27" Long	1
14	HH2000	Hose Assembly, 30" Long	1
15	061056	Hose Assembly, 69" Long	2
16	061058	Hose Assembly, 65" Long	2
17	HH2100	Hose Assembly, 18" Long with Spring Guard	1
18	HH2200	Hose Assembly, 54" Long with Spring Guard	1
19	HH2300	Hose Assembly, 72" Long with Spring Guard	1
20	HH2400	Hose Assembly, 66" Long with Spring Guard	1
21	HH2500	Hose Assembly, 18" Long	1
22	FG3800	Fitting, Tee, Male	2
23	FG3900	Fitting, Elbow, Male, 90°	2
24	FG3700	Fitting, Elbow, Male, 90°	3
25	061292	Fitting, Elbow, Male, 90°	1
26	FG4000	Fitting, Elbow, Straight Thread, 90°	2
27	FG4100	Fitting, Elbow, Straight Thread, 90°	1
28	FG4200	Fitting, Tee, Straight Thread	1
29	023414	Fitting, Elbow, 1/2" M x 1/2" F, 90°	2
30	061059	Fitting, Elbow, 90° (F2501-6-8-0)	1
31	42103-44	Bushing, 3/4" x 1/4", Hex Reducer	1
32	FG4300	Fitting, Elbow, Male, 90°	1
33	42103-47	Bolt Assembly ((1) 5/16" NC HHCS x 1-3/4" Long, (1) 5/16" Flat Washer, (1) 5/16-18 Stover Nut)	6
34	42103-48	Bolt Assembly ((1) 1/4" NC HHCS x 3/4" Long, (1) Split Lock Washer, (1) SAE Flat Washer)	2
35	42103-49	Bolt Assembly (1) 3/8"-16 NC HHCS x 2-1/2", (1) 3/8" Flat Washer, (1) 3/8"-16 Nylock Lock Nut)	4
36	42103-50	Fitting, Connector, Male, Straight	1
37	42103-53	Fitting, Tee, Street	1
38	42103-54	Fitting, Cap	1
39	FG3600	Fitting, Elbow, 90°	2

1.4 - Hydraulic System, Parts List, continued

SECTION 1 PARTS

ITEM	PART#	DESCRIPTION	QTY
40	42103-56	Fitting, Tee, Male	1
41	42013-59	Fitting, Connector, Straight Thread	1
42	068347	Bolt Assembly, ((1) 1/2" NC Hex Socket Flat Head Cap Screw x 2" Long, (1) split Lock Washer, (1) Nylock Lock Nut)	8
43	42103-87	Pin, Cotter, 5/32" x 2" (for Wheel Motor)	2
44	42103-65	Handle, Directional Valve	1
45	055034	Washer, Flat, 1", GR8	4
46	42103-63	(REPLACEMENT) Key, Wheel Motor, 5/16" square x 1" Long (1 per wheel)	2
47	42103-64	(REPLACEMENT) Nut, Castle, Wheel Motor, 1"-20 Threads per Inch (1 per wheel)	2

DUMP & DIRECTIONAL VALVE ASSEMBLY DETAIL

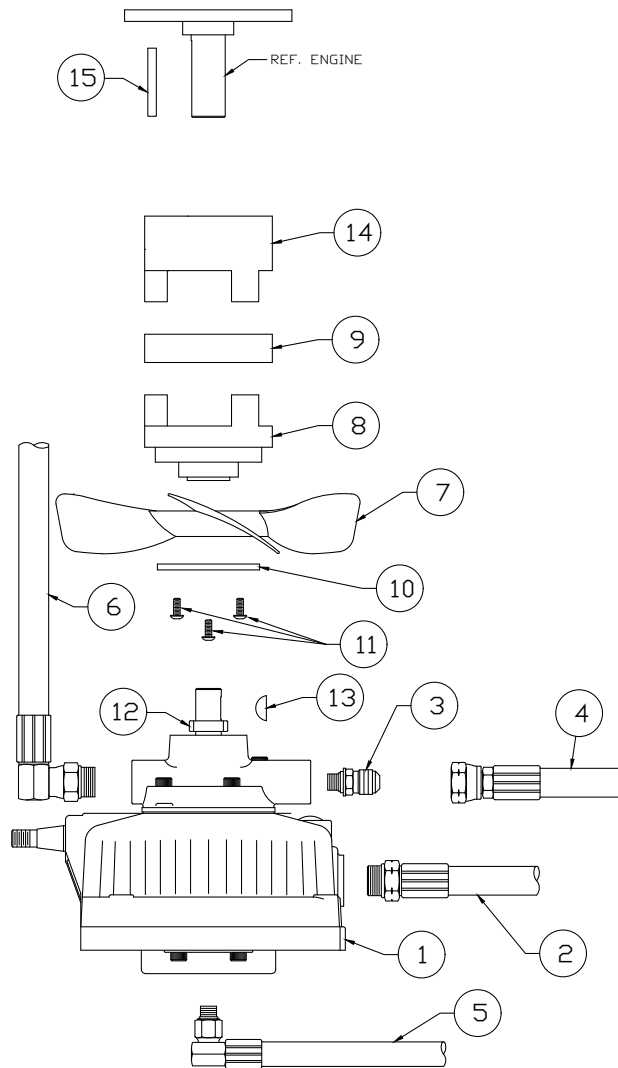
ITEM	PART #	DESCRIPTION	QTY
4A	42103-69	Assembly, Dump Valve, (consists of part #'s 4, 23, 24, 25)	1
5A	42103-76	Assembly, Directional Valve (consists of part #'s 5, 22, 24, 36, 38, 40)	1

REPLACEMENT SEAL KITS

PART#	DESCRIPTION
42103-99	AR16 Lift Cylinder Seal Kit
100135	AR21 Lift Cylinder Seal Kit
42103-85	Directional Control Valve and Dump Valve Seal Kit

SECTION 1 PARTS

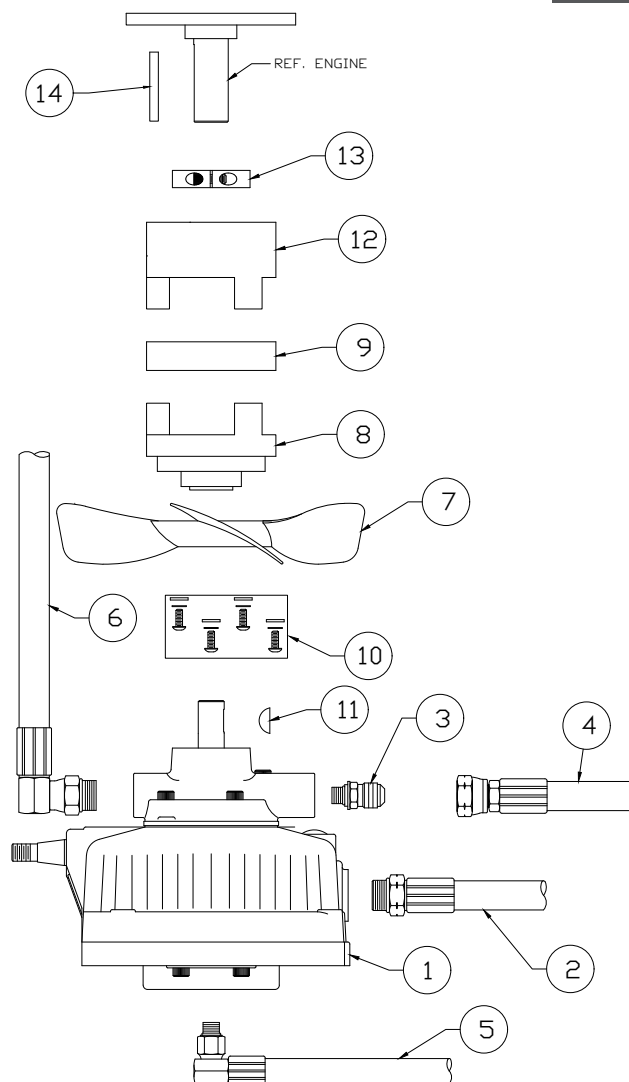
1.5 - Hydraulic Motor, Illustration & Parts List (AR16 Models)



ITEM	PART #	DESCRIPTION (for AR16 Models)	QTY
1	HM0500	Hydrostatic Pump	1
2	HH2500	Hose Assembly, 18" Long, Straight	1
3	42103-59	Connector, Straight Thread "O" Ring	1
4	HH1700	Hose Assembly, 20" Long	1
5	061060	Hose Assembly, 18" Long, 90°-Straight	1
6	061055	Hose Assembly, 17" Long	1
7	42103-07	Fan, Transmission	1
8	42103-08	Coupling, Pump Side, Hydraulic Assembly	1
9	PM0150	Element, Spider Jaw	1
10	42103-10	Washer, Flat	1
11	42103-11	Fastner, FSHCS 1/4"-20 x 3/4"	3
12	056700	Spacer, Shaft, 11/16"	1
13	42103-13	Key, Woodruff, #606 (3/16" x 3/4" Long)	1
14	PM0100	Coupling, Half, 1" Bore, Engine Side	1
15	064393	Key, 1/4 Sq X 1-3/4 High Carbon 109	1

1.5 - Hydraulic Motor, Illustration & Parts List (AR21 Models)

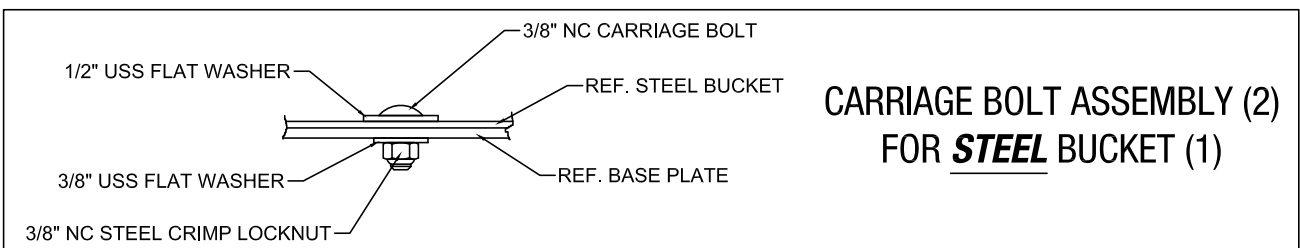
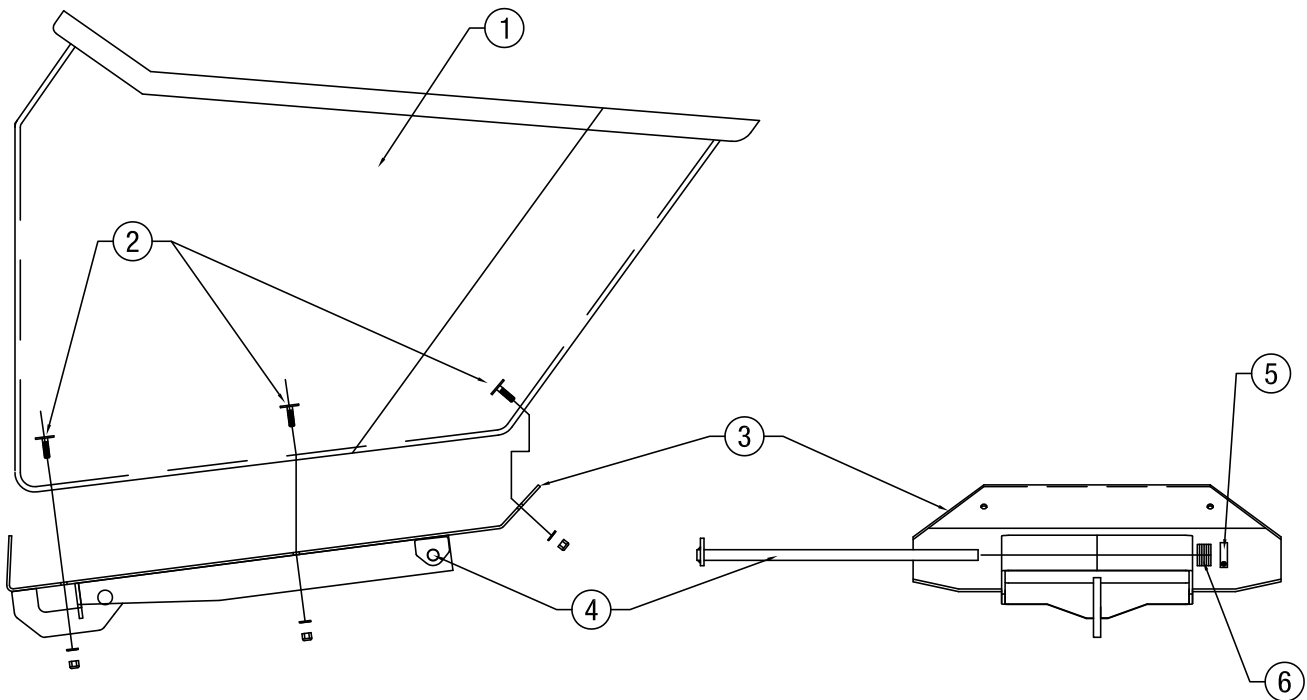
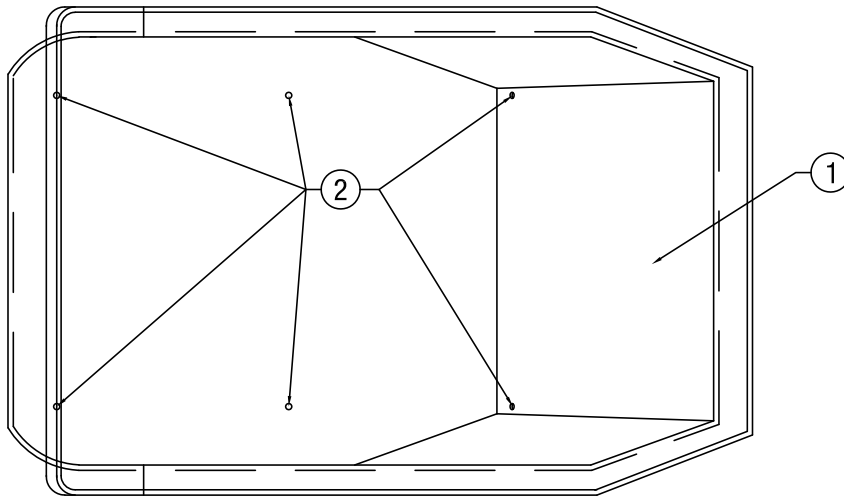
SECTION 1 PARTS



ITEM	PART #	DESCRIPTION (for AR21 Models)	QTY
1	HM0500	Hydrostatic Pump	1
2	HH2500	Hose Assembly, 18" Long, Straight	1
3	42103-59	Connector, Straight Thread "O" Ring	1
4	HH1700	Hose Assembly, 20" Long	1
5	061060	Hose Assembly, 18" Long, 90°-Straight	1
6	061055	Hose Assembly, 17" Long	1
7	42123-01	Fan, Transmission	1
8	42123-05	Coupling, Pump Side, Hydraulic Assembly	1
9	42123-06	Element, Spider Jaw	1
10	42123-03	Bolt Assembly ((4) #10-24 ,HSBHCS, x 1/2" Long, (4) Star Lock Washer, (4) #10 Flat Washer)	1
11	42103-13	Key, Woodruff, #606 (3/16" x 3/4" Long)	1
12	42123-04	Coupling, Half, 1" Bore, Engine Side	1
13	42303-16	Collar, Clamping	1
14	064393	Key, 1/4 Sq X 1-3/4 High Carbon 109	1

SECTION 1 PARTS

1.6 - Bucket & Base Assembly, Illustration



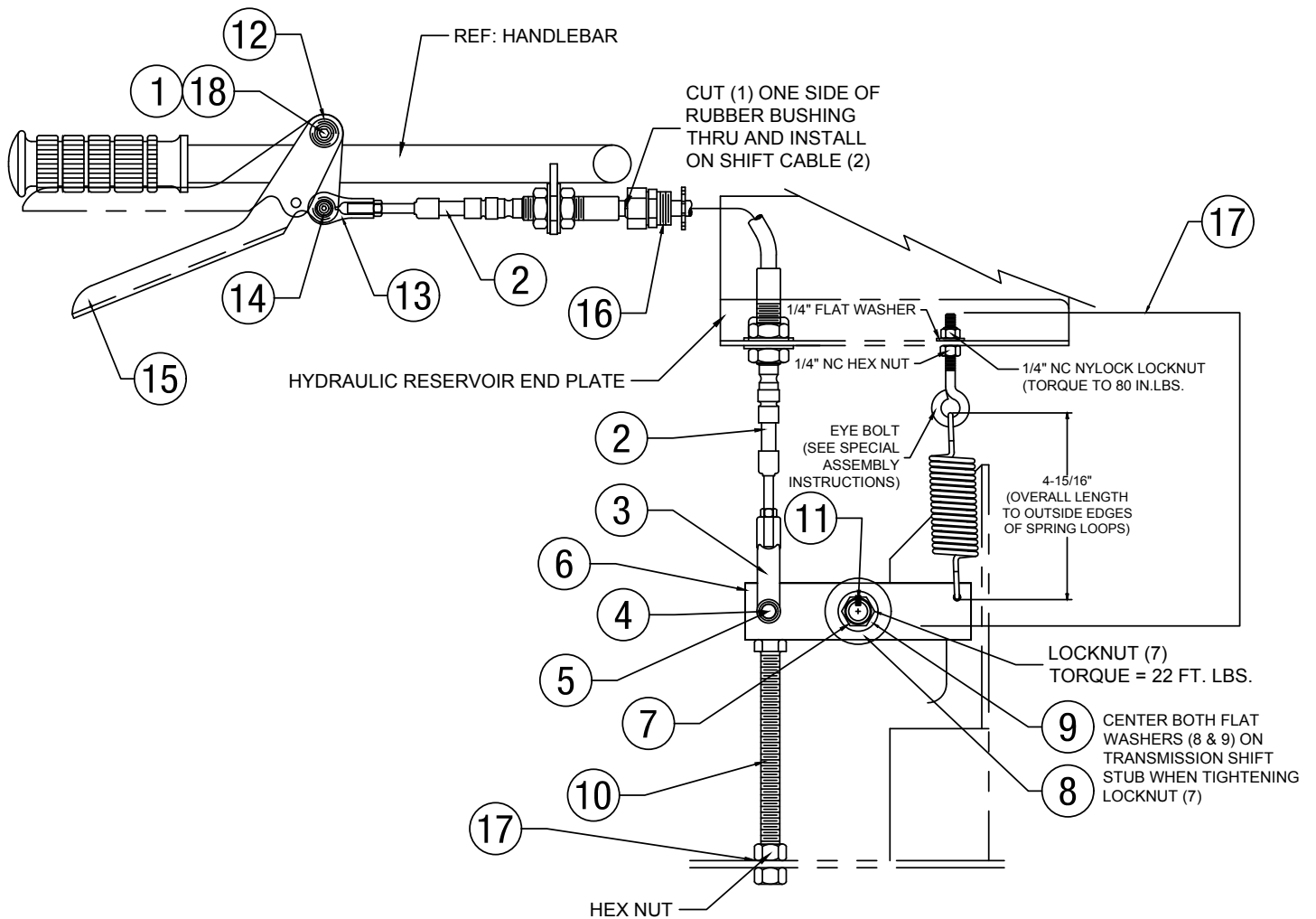
1.6 - Bucket & Base Assembly, Parts List

SECTION 1 PARTS

ITEM	PART #	DESCRIPTION	QTY
1	42106-03	AR16 - Polyurethane Bucket - 16 ft ³	1
	42105-01	AR16 - Steel Bucket - 16 ft ³	1
	42122-01	AR21 - Polyurethane Bucket - 21 ft ³	1
	42121-08	AR21 - Steel Bucket - 21 ft ³	1
2	42106-02	Polyurethane Bucket - Elevator Bolt Assembly (3/8" NC Elevator Bolt x 1-1/2" Long with 3/8" SAE Flat Washer and 3/8" NC Nylock Locknut)	6
	42105-10	Steel Bucket - Carriage Bolt Assembly (3/8" NC Carriage Bolt x 1" Long with 1/2" USS Flat Washer, 3/8" USS Flat Washer and 3/8" NC Steel Crimp Locknut)	6
3	42110-02	AR16 - Bucket Base Plate	1
	063321	AR21 - Bucket Base Plate	1
4	42110-11	Pivot Pin	1
5	42110-16	Clamping Collar	1
6	42110-17	Washer, Spacer (3/4" SAE Flat Washer Discontinued 09/08)	6

SECTION 1 PARTS

1.7 - Travel Speed Control Assembly, Illustration



1.7 - Travel Speed Control Assembly, Parts List

SECTION 1 PARTS

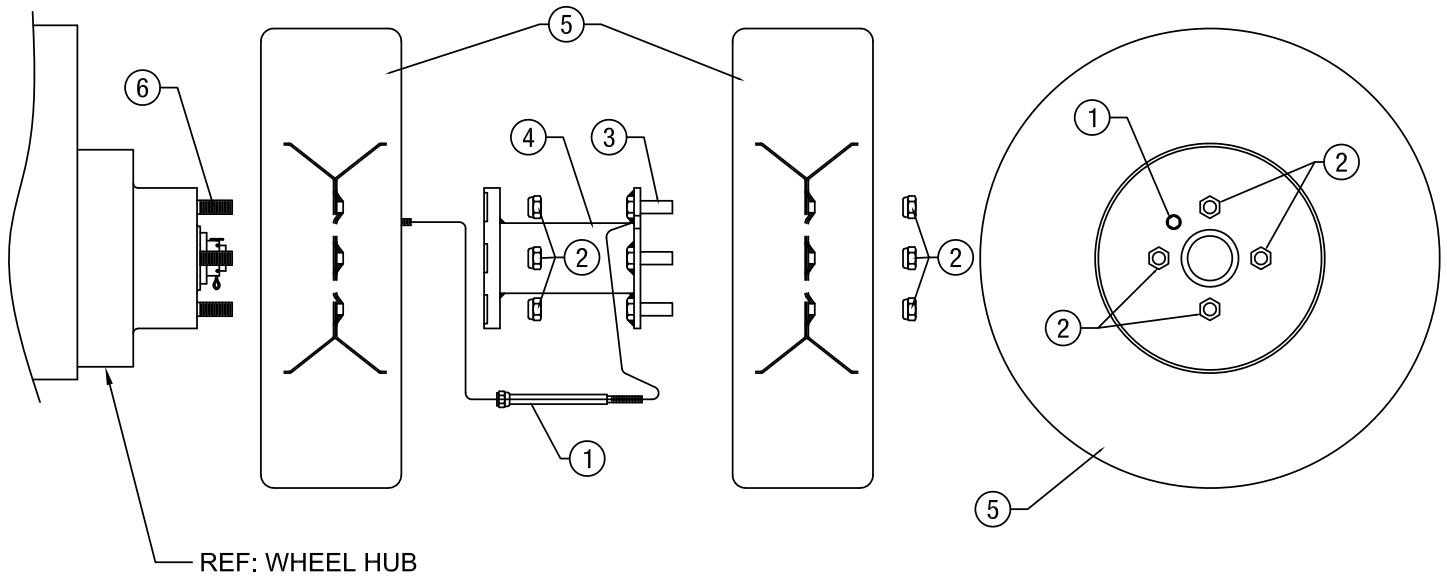
ITEM	PART#	DESCRIPTION	QTY
1	42107-04A	Fastener, Bolt, Shoulder, 3/8" x 1-1/2"	1
2	CT0900	Shift Cable	1
3	MS2500	Adjustable Yoke End	1
4	42107-11	Clevis Pin	1
5	42107-12	Plated Cotter Pin (3/32" x 3/4")	1
6	42107-13	Transmission Shift Bar	1
7	42107-14	1/2" NC Steel Lock Nut	1
8	42107-15	5/ 8" USS Flat Washer	1
9	42107-16	V2" SAE Flat Washer	1
10	42107-17	Neutral Stop Bolt With Hex Nut	1
11	42107-21	1/ 8" x 5/8" Woodruff Key	1
12	42107-22	3/8" SAE Flat Washer	2
13	42107-23	Tie Rod End	1
14	42107-24	Shoulder Bolt with Nylock Lock Nut	1
15	42107-25	Travel Speed Control Lever	1
16	42107-30	Metal Cord Grip	1
17	010093	Fastener, Lock Washer, 1/2"	1
18	040208	Fastener, Nut, Stover, 1/2"-13	1

ITEM	PART #	DESCRIPTION	QTY
18	42107-27	Extension Spring Repair Kit (Consists of: Extension Spring, 1/4" NC Eye Bolt, 1/4" USS Flat Washer, 1/4" NC Nylock Lock Nut) {See Assembly Note For Important Assembly Information}	1

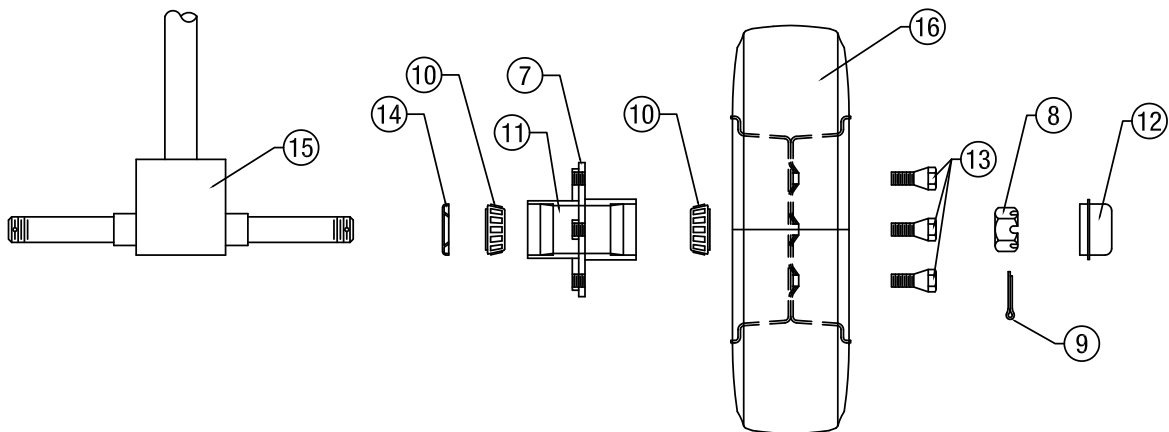
***Assembly Note for Extension Spring Repair Kit:**

1. Adjust the Eye Bolt so the length of the Extension Spring is 4-15/16" from the outside edges of the end Spring Loops when the Transmission Shift Bar, item 13, is in the NEUTRAL position (against the Neutral Stop Bolt, item 17) as shown in the assembly drawing.
2. Then turn the Position the "Eye" of the Eye Bolt to line to with the top Spring Loop as shown in the assembly drawing.
3. After completion of steps 1-2, hold the Eye Bolt position and tighten the 1/4" NC Nylock Lock Nut to 80 in.lbs

DRIVE / FRONT WHEEL ASSEMBLY



STEERING / REAR WHEEL ASSEMBLY



1.8 - Wheel Assemblies, Parts List

SECTION 1 PARTS

DRIVE / FRONT WHEEL ASSEMBLY			
ITEM	PART#	DESCRIPTION	QTY
1	MS4000	Air Valve Extender. Discontinued March, 2002	2
2	42113-09	Cone Wheel Nut.	16
3	42116-05	Wheel Studs for Wheel Spacer, item 19	8
4	42116-01	Wheel Spacer	2
5	42113-20	Foam Filled Drive Tire and Wheel Assembly	4
6	42101-63	Brake Hub Wheel Studs	8

***NOTE:** Part quantities referenced in this table represent quantity needed **PER MACHINE**.

STEERING / REAR WHEEL ASSEMBLY			
ITEM	PART#	DESCRIPTION	QTY
7	42113-03	High Speed Hub Complete with Bearings, Grease Seal and Grease Cap	2
8	42113-04	Castle Nut	2
9	42113-05	Cotter Pin Ws" x 1 Y.")	2
10	42113-12	Roller Bearing Cone	4
11	42113-13	Roller Bearing Cup	4
12	42113-14	Grease Cap	2
13	42113-15	Wheel Bolts	8
14	42113-16	Grease Seal	2
15	32100-01	Steering Column	1
16	42113-21	Foam Filled Steering Tire and Wheel Assembly	2

***NOTE:** Part quantities referenced in this table represent quantity needed **PER MACHINE**.

1.9 - Console Mounted Dump Lever, Illustration



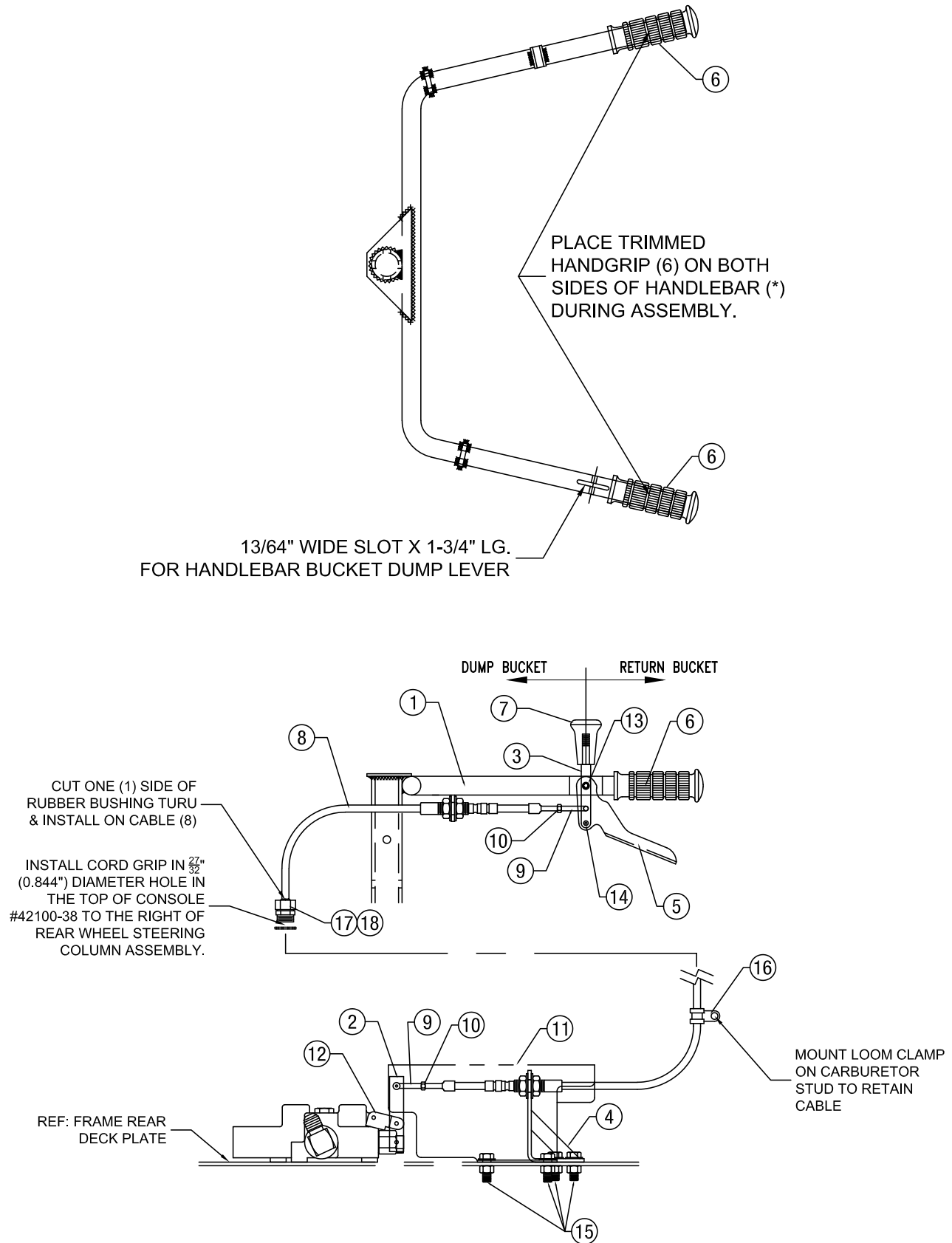
1.9 - Console Mounted Dump Lever, Parts List

SECTION 1 PARTS

ITEM	PART#	DESCRIPTION	QTY
1	42117-02	Dump Lever	1
2	MS2100	Plastic Ball Knob	1
3	42117-08	Bolt Assembly (3/8" NC X 1-3/4" HHCS with (7) USS Flat Washers, (1) Hex Nut, and (1) Nylock Lock Nut)	1
4	42117-09	Yoke	2
5	42107-11	Clevis Pin	2
6	42117-11	Cotter Pin. 3/32" x 3/4" Long	2
7	42117-12	Hex Nut. 3/8" NF-24	2
8	42117-13	Dump Rod	1
9	42117-17	Dump Pedal	1
10	42117-23	Bolt Assembly (5/8" NC x 2-1/4" HHCS with (2) SAE Flat Washers, (1) Hex Nut, and (1) NyLock Lock Nut)	1

SECTION 1 PARTS

1.10 - Handlebar Mounted Dump Lever, Illustration



1.10 - Handlebar Mounted Dump Lever, Parts List

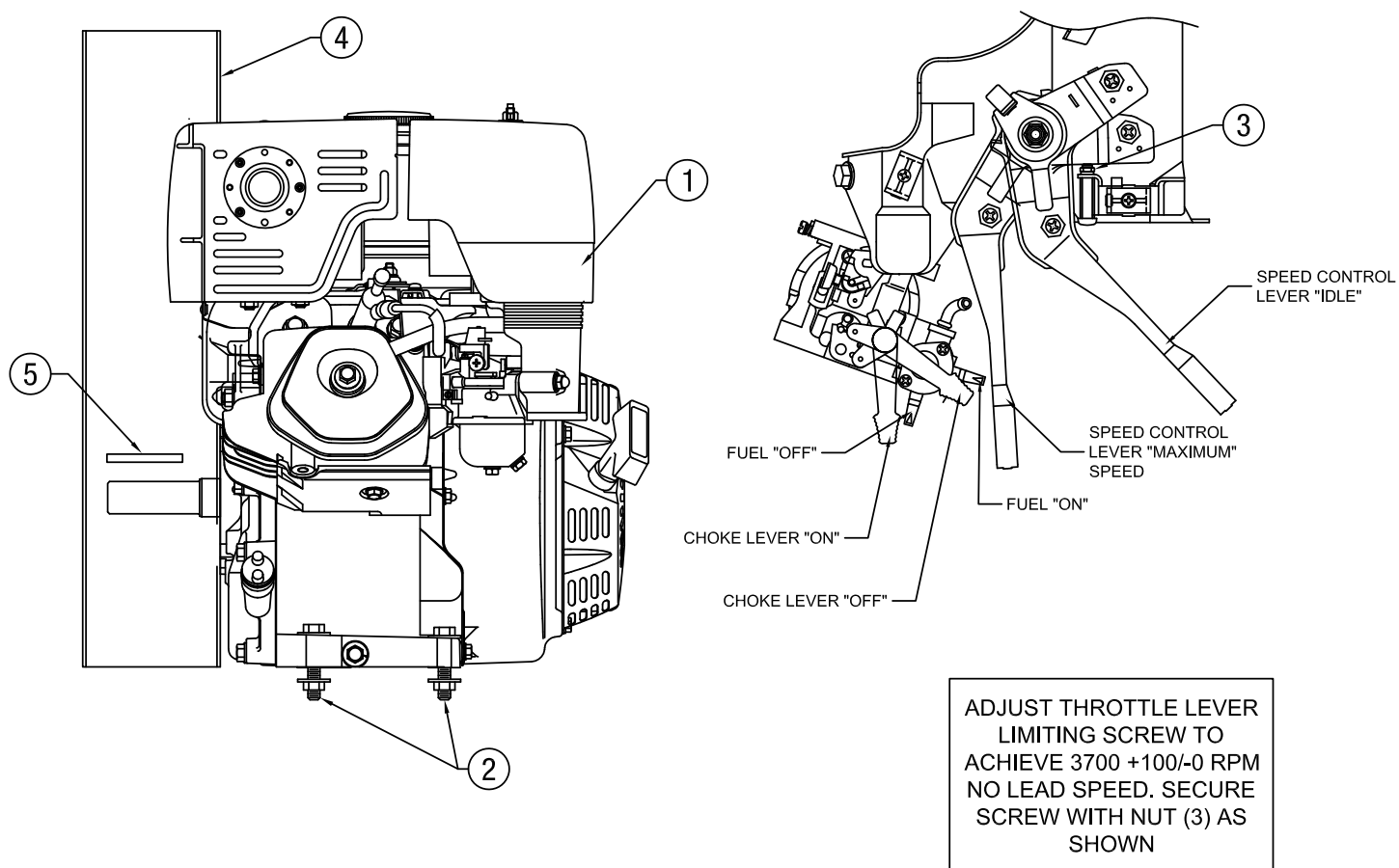
SECTION 1 PARTS

ITEM	PART#	DESCRIPTION	QTY
1	42126-12	Handlebar with Dump Mount	1
2	42126-13	Handlebar Dump Lever	1
3	42126-14	Dump Rod Lever without Knob	1
4	42126-15	Cable Mounting Bracket	1
5	42126-18	Dump Lever Pull Handle	1
6	42102-08	Handlebar Grip, Trimmed	2
7	42126-21	Dump Lever Knob	1
8	42126-22	Dump Cable	1
9	42126-23	Clevis with Pin	2
10	42126-24	Hex Nut. #10-32 UNF Plated	2
11	42126-25	Dump Cable Cover	1
12	42126-26	Valve Link Bracket Kit	1
13	42126-27	Bolt Assembly. 1/4" NC HHCS x 1-3/4" Long with 2 SAE Flat Washers, Steel Lock Nut	1
14	42126-28	Bolt Assembly. 1/4" NC x 1-X" Long Shoulder Bolt with 10-24 Nylock Lock Nut	1
15	42126-29	Bolt Assembly. 3/8" NC HHCS x 1-1/4" Long with SAE Flat Washer, Steel Crimp Lock Nut.	5
16	40120-27	3/8" I.D. Loom Clamp	1
17	42126-32	Metal Cord Grip	1
18	42107-31	Stamped Steel Locknut	1

SECTION 1 PARTS

1.11 - 13HP Honda Engine with Recoil & Electric Start (AR16), Illustration & Parts List

TOP VIEW

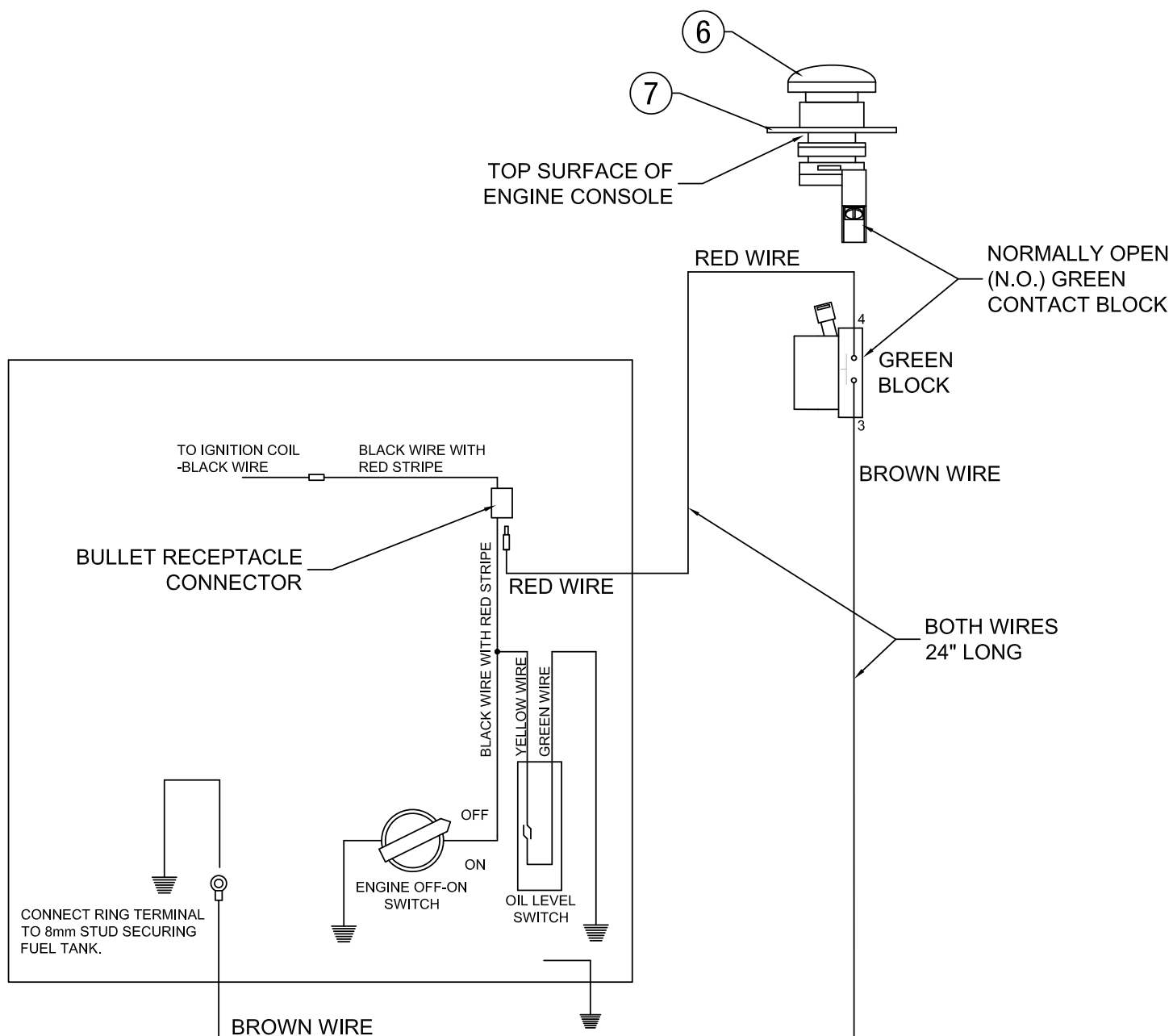


ITEM	PART #	DESCRIPTION	QTY
1	EN0600	13 HP Honda Engine with Recoil Start	1
	EN1700	13 HP Honda Engine with Electric Start with Recoil Backup	1
2	32103-02	Bolt Assembly (3/8" NC HHCS x 1-3/4" Long with (2) SAE Flat washer, and (1) Stover Lock Nut	4
3	45048-05	Throttle Stop Bolt Retaining Nut M5 x 0.8 Hex Nut Plated	1
4	32103-15	Heat Shield	1
5	024957	Key (1/4" SQ x 1-1/2" Long)	1

1.12 - Electric Schematic for AR16 with 13HP Honda Engine (Recoil Start), Illustration and Parts List

SECTION 1 PARTS

13 HP HONDA ENGINE, MODEL GX390 RECOIL START, ELECTRICAL SCHEMATIC



ITEM	PART #	DESCRIPTION	QTY
6	45049-25	Pushbutton, E-stop, 1N.O. Contact	1
7	42109-01R	"Emergency Stop" Legend Plate	1

1.13 - Electric Schematic for AR16 with 13HP Honda Engine (Electric Start), Illustration

BATTERY SPECIFICATIONS:
12 VOLT, BCI GROUP #U1R WITH A MINIMUM COLD CRANK AMP (CCA) OF 300 AMPS

CONNECT TO REGULATOR / RECTIFIER
BLACK WIRE
WHITE WIRE
FUSE: 15 AMP
WHITE WIRE

PULL OFF ELBOW FEMALE INSULATED CRIMP TERMINAL FROM "START" POST OF STARTER MOTOR SOLENOID, ATTACH THIS TERMINAL TO INSULATED MALE SPADE ATTACHED TO BLUE WIRE.

ATTACH 0.25" (1/8") WIDE INSULATED CRIMP MALE SPADE TERMINAL

ATTACH 0.25" (1/8") WIDE INSULATED FEMALE PUSH-ON TERMINAL TO STARTER MOTOR SOLENOID

STARTER MOTOR SOLENOID
STARTER MOTOR

CONNECT RING TERMINAL TO 8mm STUD SECURING FUEL TANK.

TO IGNITION COIL, BLACK WIRE WITH RED STRIPE

RED WIRE
BLACK WIRE WITH RED STRIPE

RECTIFIER
BLACK WIRE
YELLOW WIRE

OIL LEVEL SWITCH

COMBINATION (IGNITION) SWITCH AT ENGINE CONTROL PANEL
ST LO BAT F IG
BLACK WIRE

GROUND TO CONTROL PANEL BOX

RED WIRE
YELLOW WIRE
GREEN WIRE
BROWN WIRE

RED BLOCK
GREEN BLOCK

NORMALLY CLOSED (NC) RED CONTACT BLOCK

NORMALLY OPEN (N.O.) GREEN CONTACT BLOCK

ALL FOUR (4) WIRES 28" LONG

BLACK WIRE
BLACK WIRE

1
2
3
4

TOP SURFACE OF ENGINE CONSOLE

1.13 - Electric Schematic for AR16 with 13HP Honda Engine with Electric Start, Parts List

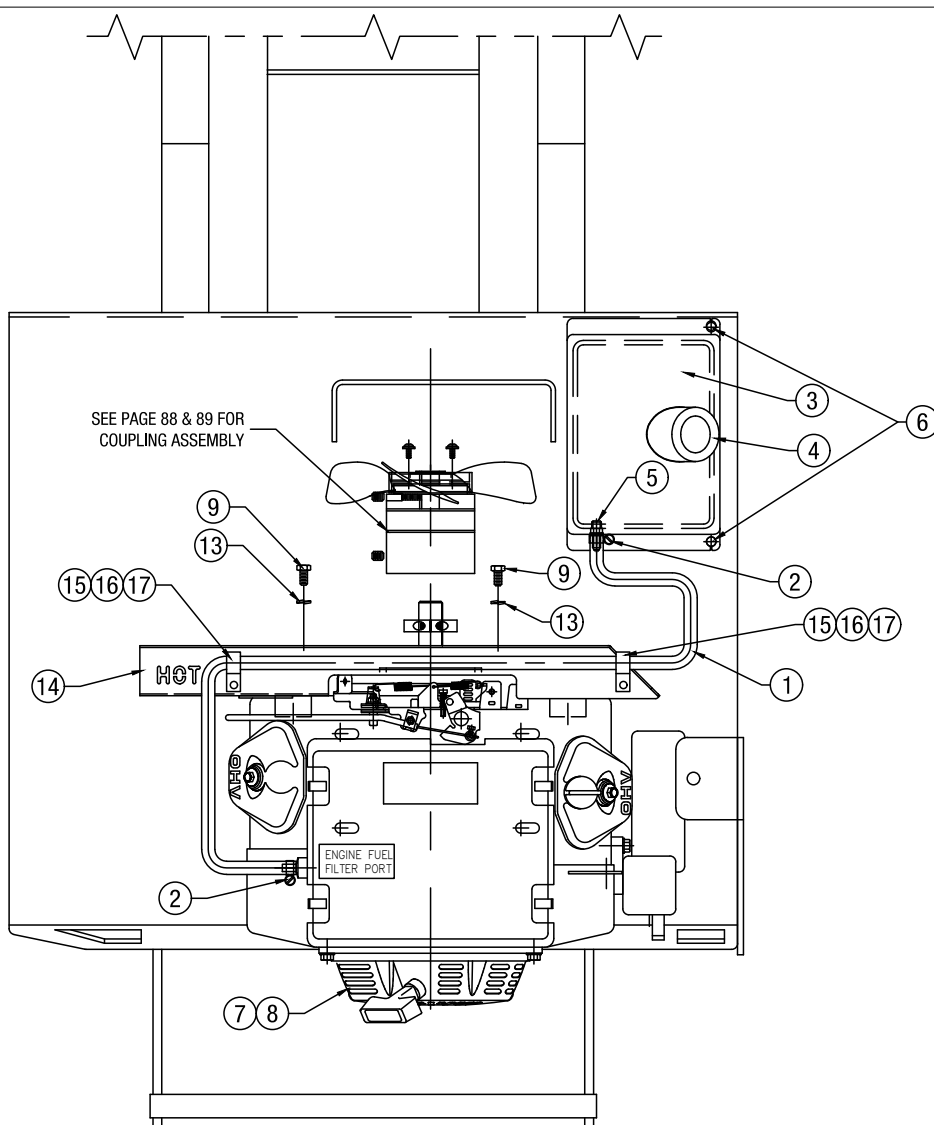
SECTION 1 PARTS

ITEM	PART #	DESCRIPTION	QTY
1	BF0200	Black Ground Cable x 10" Long	1
2	BF0100	Black Positive Cable x 36" Long	1
3	45043-04	Pushbutton, E-Stop, 1N.O & 1N.C Contact	1
4	42409-01R	"Emergency Stop" Legend Plate	1



SECTION 1 PARTS

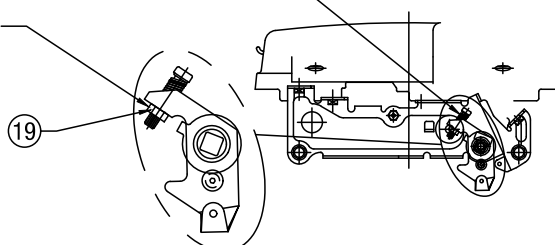
1.14 - Electric Schematic for AR21 with 20HP Honda Engine with Electric Start, Illustration



SPEED CONTROL

MAXIMUM ENGINE SPEED ADJUSTING SCREW
ADJUST MAXIMUM ENGINE SPEED TO 3300
+100/-0 RPM UNDER NO LOAD.
TURN CLOCKWISE TO INCREASE SPEED

SECURE SCREW WITH
NUT (19) AS SHOWN



1.14 - Electric Schematic for AR21 with 20HP Honda Engine with Electric Start, Parts List

SECTION 1 PARTS

ITEM	PART#	DESCRIPTION	QTY
1	039155	Hose, 1/4" Fuel Line	4.10 ft
2	019430	Fitting, Clamp, Hose, Mini, Size 4	2
3	42123-10	Fuel Tank	1
4	42123-18	Fuel Cap	1
5	42123-22	Barbed Connector Fitting. Brass	1
6	42123-22	Bolt Assembly (3/8" NC HHCS x 1" Long with (2) USS Flat Washers and (1) Lock Nut; For # item 9)	2
7	45320-09	20 HP Honda Engine with Electric Start and Recoil Backup (less Muffler Assembly and Oil Filter Extension Kit)	1
8	42124-02	Muffler Assembly for item # 13	1
9	010035	Fastener, Bolt, HHCS, 3/8"-16 x 3/4", Grade 8	4
10	027265	Fastener, Clamp, Hose, #6 (for Breather Vent) [NOT SHOWN]	2
11	055642	Hose, Fuel Line, 7/16" I.D., Low Perm (for Breather Vent) [NOT SHOWN]	2.75 ft
12	010194	Fitting, 3/8" x 1/4", Male, Brass, Barb (for Breather Vent) [NOT SHOWN]	1
13	010091	Fastener, Washer, Lock, 3/8", Grade 8	4
14	42124-46	Heat Shield	1
15	42124-18	Bolt Assembly (1/4" NC HHCS x 1-1/4" Long with Lock Nut)	2
16	42124-19	Pipe Coupling	2
17	40112-68	1/2" Loom Clamp	2
18	32103-02	NOT SHOWN - Bolt Assembly (3/8" NC HHCS x 1-3/4" Long with (2) SAE Flat washer, and (1) Stover Lock Nut For attaching Engine to Buggy Frame)	4
19	45048-05	Fastener, Nut, Hex, M5 x 0.8 (Pre-March 2018)	1
20	020542	Fastener, Nut, 1/4-20, Stover	2

1.14 - Electric Schematic for AR21 with 20HP Honda Engine with Electric Start, Illustration, continued

BATTERY SPECIFICATIONS:

12 VOLT, BCI GROUP #U1R WITH A
MINIMUM COLD CRANK AMP (CCA) OF
300 AMPS

BATTERY

CONNECT PLUG TO REGULATOR/ RECTIFIER

TO IGNITION COIL, BLACK WIRE WITH RED STRIPE

CONNECT TO ALTERNATOR CHARGE COIL AT ENGINE FLYWHEEL

CONNECT TO 12 VDC ACCESSORIES IF REQ'D.

25 AMP FUSE

TO FUEL SHUT OFF SOLENOID

PULL OFF ELBOW FEMALE INSULATED CRIMP TERMINAL FROM "START" POST OF STARTER MOTOR SOLENOID. ATTACH THIS TERMINAL TO INSULATED MALE SPADE ATTACHED TO BLUE WIRE.

ATTACH 0.25" (6") WIDE INSULATED FEMALE -PUSH-ON TERMINAL TO STARTER MOTOR SOLENOID

STARTER MOTOR

COMBINATION (IGNITION) SWITCH AT ENGINE CONTROL PANEL

GROUND TO CONTROL PANEL BOX

RECTIFIER

OIL LEVEL SWITCH

RED WIRE

YELLOW WIRE

GREEN WIRE

BROWN WIRE

ALL FOUR (4) WIRES 28" LONG

TOP SURFACE OF ENGINE CONSOLE

NORMALLY CLOSED (NC) RED CONTACT BLOCK

NORMALLY OPEN (N.O.) GREEN CONTACT BLOCK

BULLET RECEPTACLE CONNECTOR

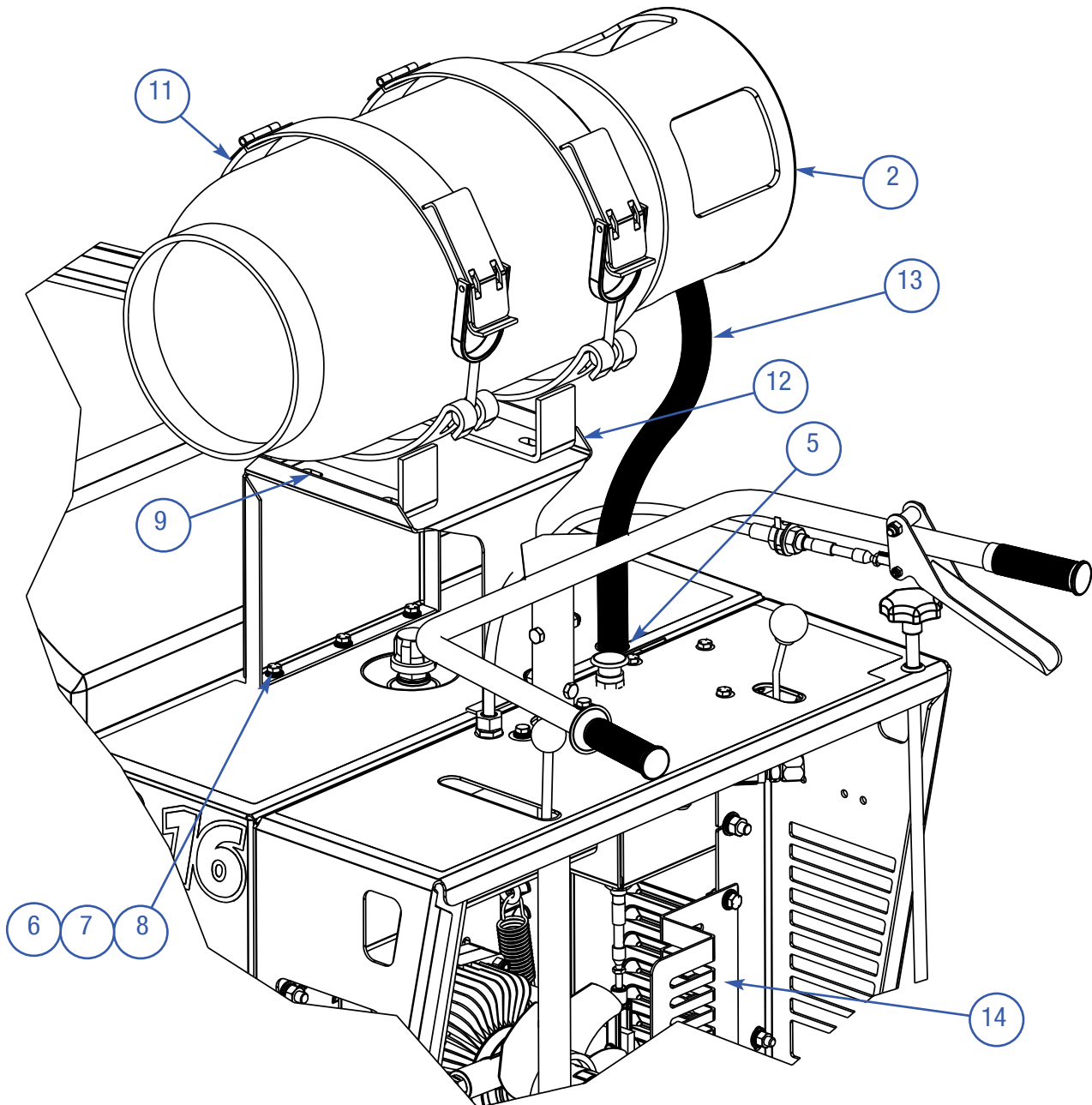
1.14 - Electric Schematic for AR21 with 20HP Honda Engine with Electric Start, Parts List, contin- ued

SECTION 1 PARTS

ITEM	PART#	DESCRIPTION	QTY
1	BF0200	Black Ground Cable x 10" Long	1
2	BF0100	Black Positive Cable x 36" Long	1
3	45043-04	Pushbutton, E-Stop, 1N.O & 1N.C Contact	1
4	42409-01R	"Emergency Stop" Legend Plate	1

SECTION 1 PARTS

1.15 - Propane Assembly, Illustration (Only Available on AR16 Model)



1.15 - Propane Assembly, Parts List (Only Available on AR16 Model)

SECTION 1 PARTS

ITEM	PART #	DESCRIPTION	QTY
1	064877	Engine, Honda GX390 Propane (Not Shown)	1
2	064878	Tank, Propane	1
3	064926	Cable, Red (Battery Positive)	1
4	064929	Lug, Boosting	1
5	024629	Grommet, 1 5/8" O.D. X 7/8" I.D.	1
6	010020	FSTN, HHCS 5/16" - 18 X 1" - GRD8	4
7	010090	FSTN, LW 5/16" GRD8	4
8	010082	FSTN, FW 5/16" - GR8	4
9	012990	FSTN, Cable 3/8-16" X 1-1/4"	4
10	010464	FSTN, Nut, Nylock 3/8-16"	4
11	064879	KIT, Tank, Mounting Bracket	1
12	064849	Bracket, Propane Tank Mount	1
13	068069	Hose Assembly, Hose Fitting and Cylinder Connector	1
14	32105-02	Guard, Fan for Engine	1
15	066748	Regulator, Propane, T60-390-CERT (NOT SHOWN)	1

SECTION 1 PARTS

1.16 - Filter Kits

AR16 BUGGY			
ITEM	PART #	DESCRIPTION	QTY
1	066441	KIT, AR16 BUGGY FILTER	1
1.1	066440	FILTER, AIR - AR16 BUGGY (17210-ZE3)	1
1.2	066437	FILTER, FUEL F/ AR16 BUGGY	1
1.3	038937	FILTER, HYDRAULIC POWER UNIT	1

AR16P (Propane)			
ITEM	PART #	DESCRIPTION	QTY
1	066443	KIT, AR16P BUGGY FILTER	1
1.1	066440	FILTER, AIR AR16 BUGGY (17210-ZE3)	1
1.2	038937	FILTER, HYDRAULIC POWER UNIT	1

AR21 BUGGY			
ITEM	PART #	DESCRIPTION	QTY
1	066442	KIT, AR21 BUGGY FILTER	1
1.1	064832	FILTER, AIR - AR21 BUGGY	1
1.2	064831	FILTER, OIL	1
1.3	064833	FILTER, FUEL	1
1.4	038937	FILTER, HYDRAULIC POWER UNIT	1

Section 2 Decals

SECTION 2 DECALS

2.1 - Decals, AR16 (Kit #: 066476)

DECAL - ALLEN ENG / 2 YEAR WARRANTY
PART #: 066486
QTY: 1



DECAL - PROP 65
PART #: 069225
QTY: 1



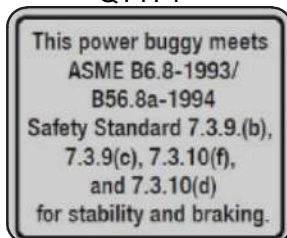
DECAL - PINCH POINT
PART #: 065917
QTY: 1



DECAL - REFUELING
PART #: 066487
QTY: 1



DECAL - ASME SAFETY
PART #: 066492
QTY: 1



CHECKER DECAL
PART #: 066487
QTY: 4

ENGINE HOT DECAL
PART #: 066491
QTY: 1



DECAL - FOAM FILLED
PART #: 056303
QTY: 6



CHECKER DECAL
PART #: 066488
QTY: 4

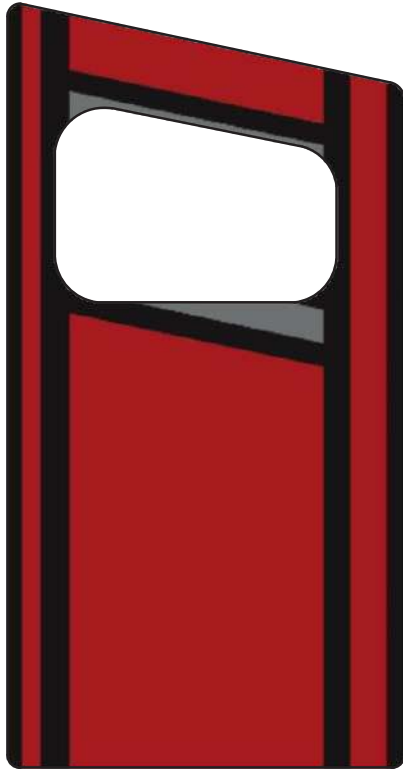
DECAL - OPERATOR'S MANUAL
PART #: 065657
QTY: 1



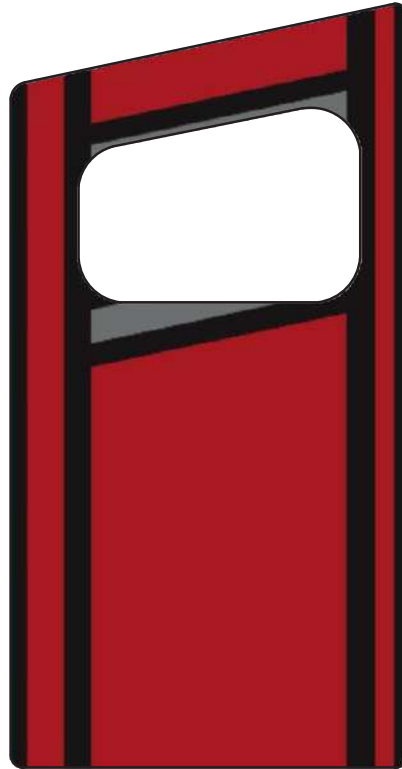
CHECKER DECAL
PART #: 066490
QTY: 1

2.1 - Decals, AR16 (Kit #: 066476)

SECTION 2 DECALS



DECAL - SIDE STRIPE, RIGHT SIDE
PART #: 066516
QTY: 1



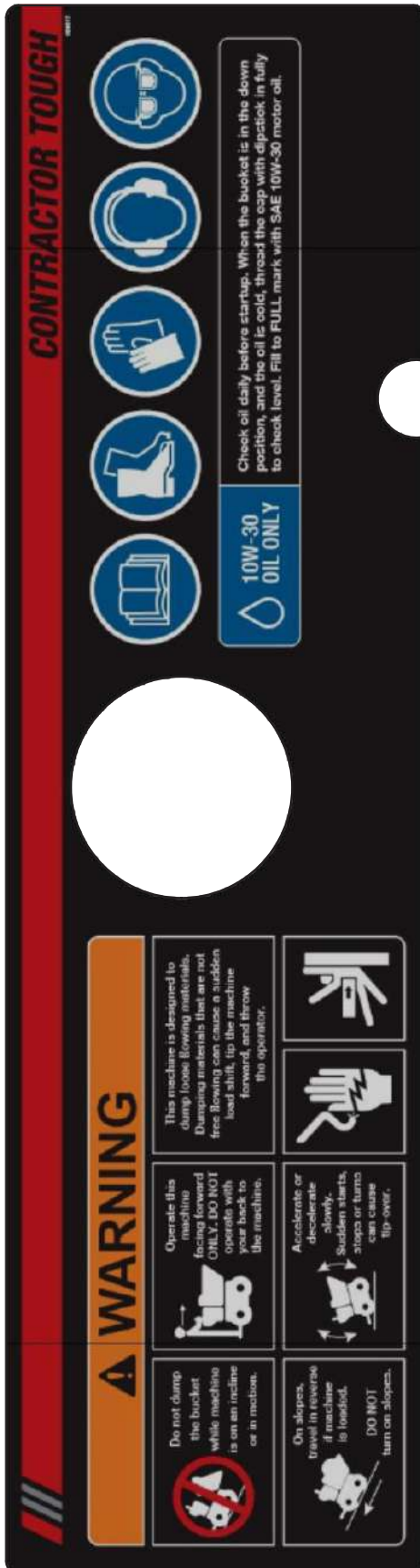
DECAL - SIDE STRIPE, LEFT SIDE
PART #: 066493
QTY: 1



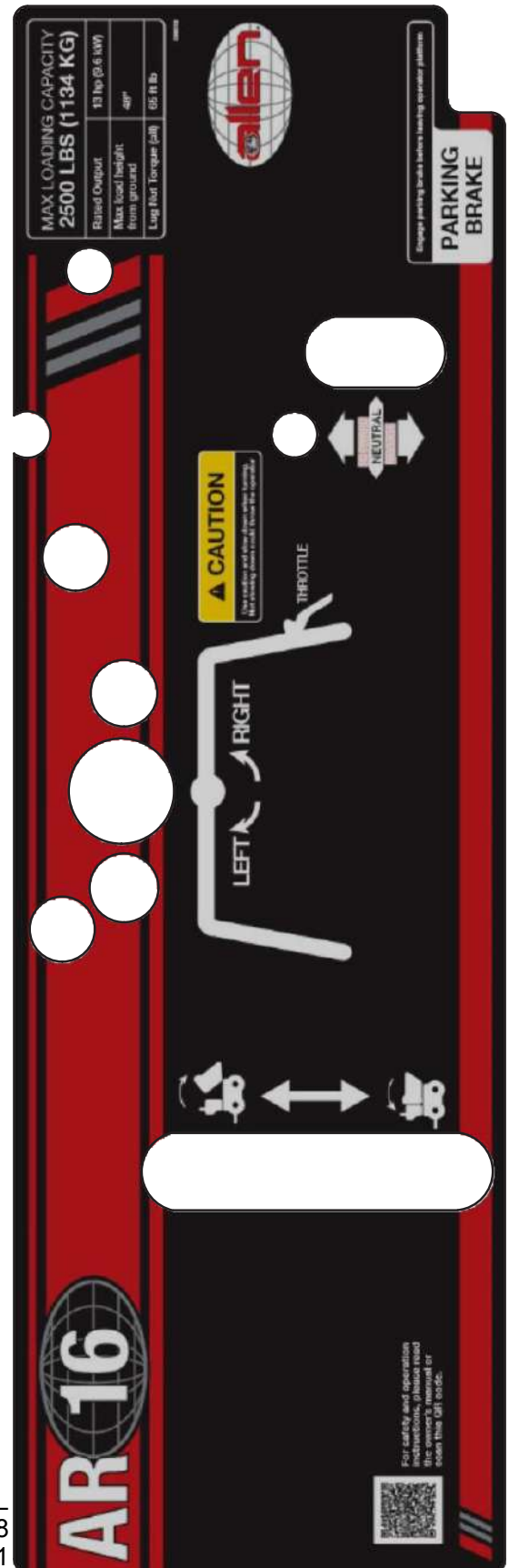
SECTION 2 DECALS

2.1 - Decals, AR16 (Kit #: 066476)

DECAL - TOP PANEL A
PART #: 066517
QTY: 1



DECAL - TOP PANEL
PART #: 066518
QTY: 1





DECAL - ALLEN GLOBE
PART #: 056400
QTY: 2



SECTION 2 DECALS

2.2 - Decals, AR16P (Kit #: 066479)

DECAL - PROPANE GAS, DANGER
PART #: 066524
QTY: 1



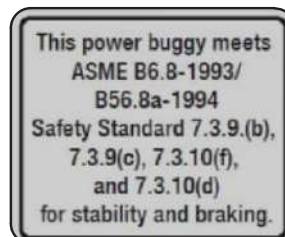
DECAL - OPERATOR'S MANUAL
PART #: 066562
QTY: 1



DECAL - CRUNCH /
PINCH WARNING
PART #: 066549
QTY: 1



DECAL - ASME SAFETY
PART #: 066492
QTY: 1



DECAL - PROP 65
PART #: 069225
QTY: 1



DECAL - PINCH POINT
PART #: 065917
QTY: 4



DECAL - FOAM FILLED
PART #: 056303
QTY: 6



DECAL - ALLEN ENG / 2 YEAR WARRANTY
PART #: 066486
QTY: 1



CHECKER DECAL
PART #: 066487
QTY: 4

CHECKER DECAL
PART #: 066488
QTY: 4

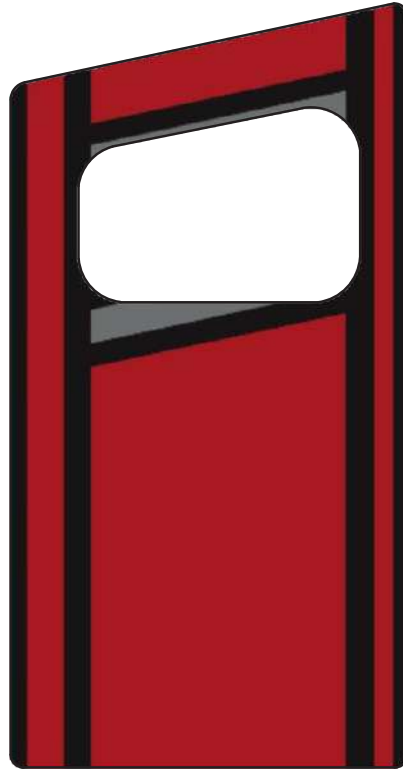
CHECKER DECAL
PART #: 066490
QTY: 1

2.2 - Decals, AR16P (Kit #: 066479)

SECTION 2 DECALS



DECAL - SIDE STRIPE, RIGHT SIDE
PART #: 066530
QTY: 1



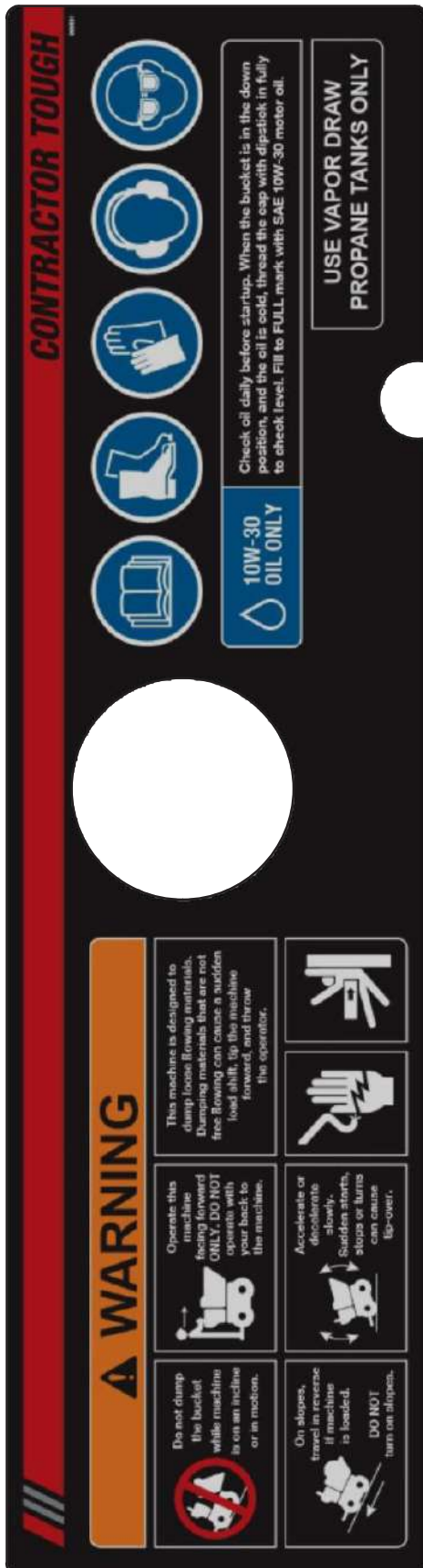
DECAL - SIDE STRIPE, LEFT SIDE
PART #: 066529
QTY: 1



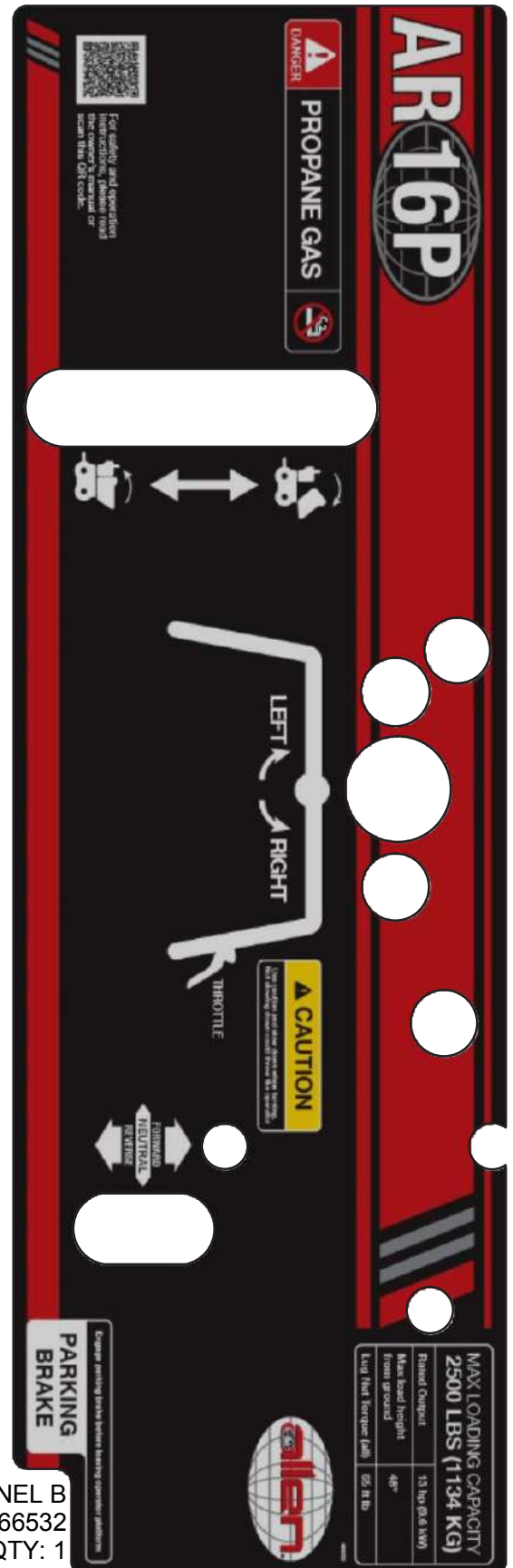
SECTION 2 DECALS

2.2 - Decals, AR16P (Kit #: 066479)

DECAL - TOP PANEL A
PART #: 066531
QTY: 1



DECAL - TOP PANEL B
PART #: 066532
QTY: 1





DECAL - ALLEN GLOBE
PART #: 056400
QTY: 2



SECTION 2 DECALS

2.3 - Decals, AR21 (Kit #: 066480)

DECAL - ALLEN ENG / 2 YEAR WARRANTY
PART #: 066486
QTY: 1



DECAL - EPA
PART #: 065908
QTY: 1



DECAL - PINCH POINT
PART #: 065917
QTY: 4



DECAL - REFUELING
PART #: 066487
QTY: 1

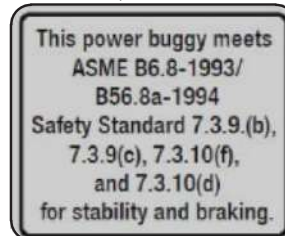


CHECKER DECAL
PART #: 066488
QTY: 4

DECAL - PROP 65
PART #: 069225
QTY: 1



DECAL - ASME SAFETY
PART #: 066492
QTY: 1



ENGINE HOT DECAL
PART #: 066491
QTY: 1



DECAL - FOAM FILLED
PART #: 056303
QTY: 6



DECAL - OPERATOR'S MANUAL
PART #: 065657
QTY: 1



CHECKER DECAL
PART #: 066489
QTY: 4

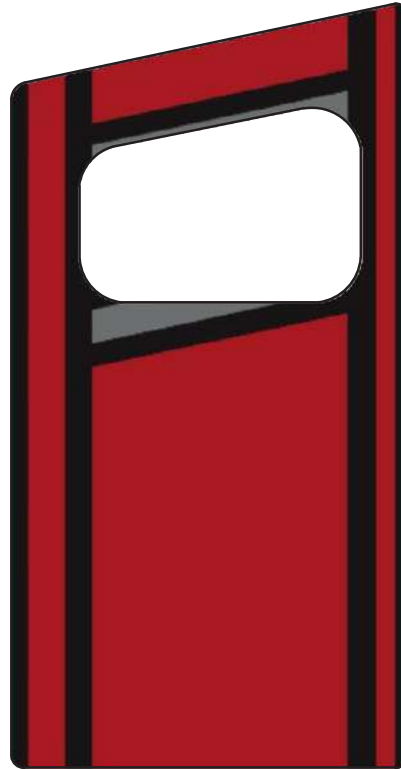
CHECKER DECAL
PART #: 066490
QTY: 1

2.3 - Decals, AR21 (Kit #: 066480)

SECTION 2 DECALS



DECAL - SIDE STRIPE, RIGHT SIDE
PART #: 066534
QTY: 1



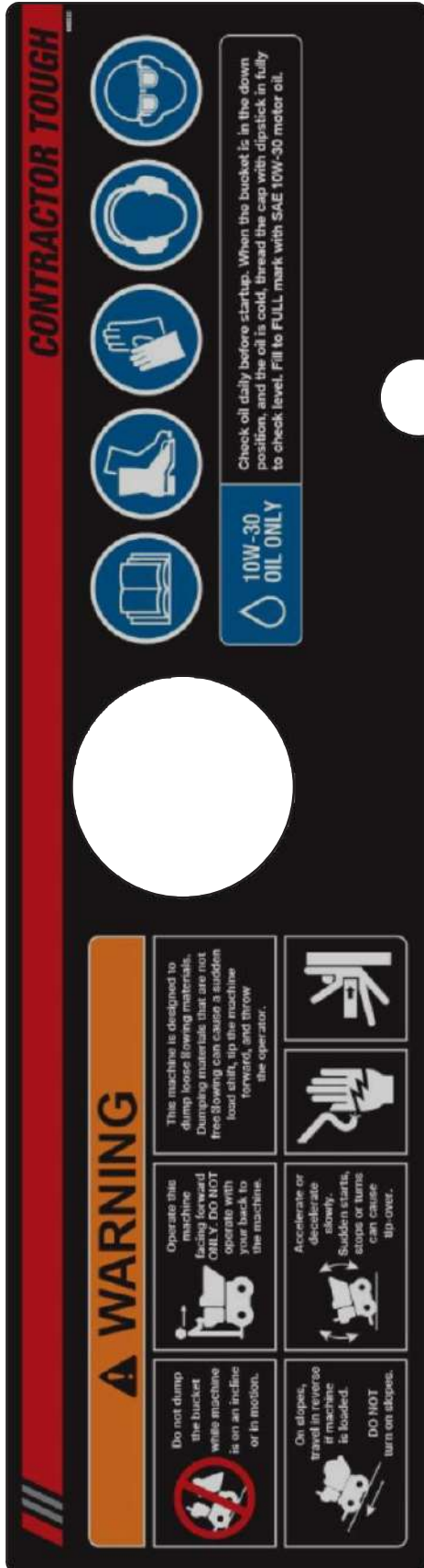
DECAL - SIDE STRIPE, LEFT SIDE
PART #: 066533
QTY: 1



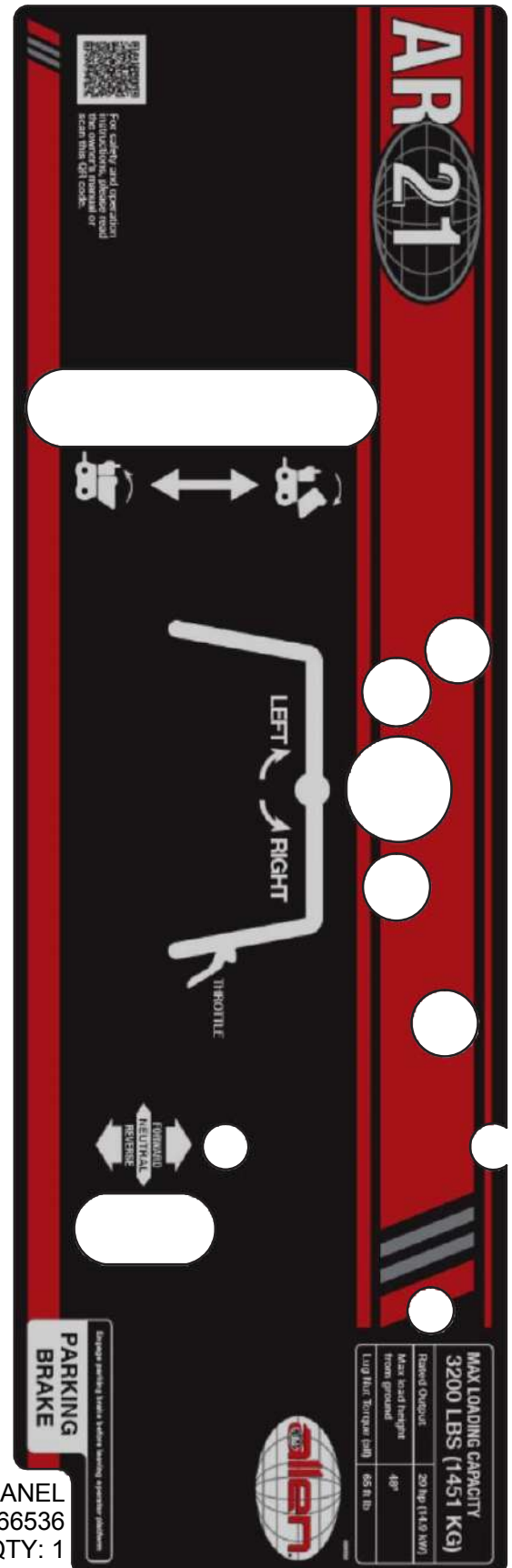
SECTION 2 DECALS

2.3 - Decals, AR21 (Kit #: 066480)

DECAL - TOP PANEL A
PART #: 066535
QTY: 1



DECAL - TOP PANEL
PART #: 066536
QTY: 1





DECAL - ALLEN GLOBE
PART #: 056400
QTY: 2



Revision Detail

MANUAL REVISION DETAIL

REVISION #	REVISION DATE	REVISION REFERENCE #	REVISION BY
-	03/2012	Initial Release	AW
A	02/2016	-	AW
B	03/2018	-	MW
C	05/2018	MN 18-016, MN 18-046	MW
D	06/2018	MN 18-059	MW
E	06/2018	MN 18-109	MW
F	07/2018	MN 18-106	MW

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U.S. Design Patents: 344,736; 400,542; 400,544; 402,998; 402,999; 403,332; 404,041; 404,042; 410,931; 413,127; 416,564; 465,897; 466,909; 474,203.

U.S. Utility Patents: 5,108,220; 5,238,323; 5,328,295; 5,352,063; 5,405,216; 5,476,342; 5,480,257; 5,480,258; 5,533,831; 5,562,361; 5,567,075; 5,613,801; 5,658,089; 5,685,667; 5,803,658; 5,816,739; 5,816,740; 5,890,833; 5,934,823; 5,967,696; 5,988,938; 5,988,939; 6,019,433; 6,019,545; 6,048,130; 6,053,660; 6,089,786; 6,106,193; 6,857,815; 5,288,166; 6,582,153 B1, 7,108,449; 7,114,876; 7,316,523; 7,690,864 B2

Canadian Patents: 2,039,893.

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