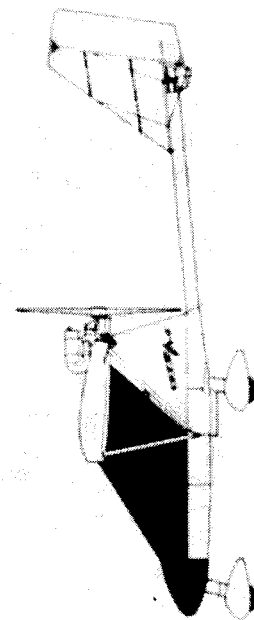
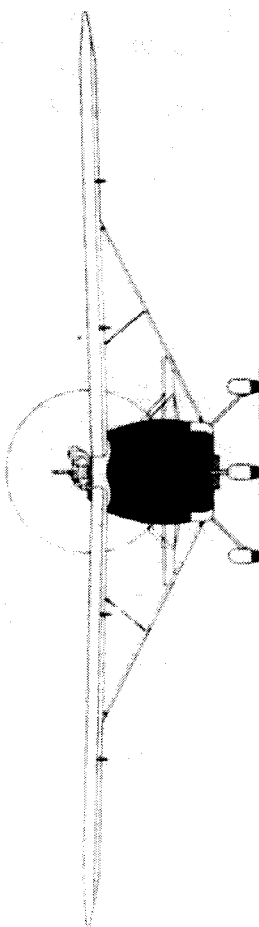
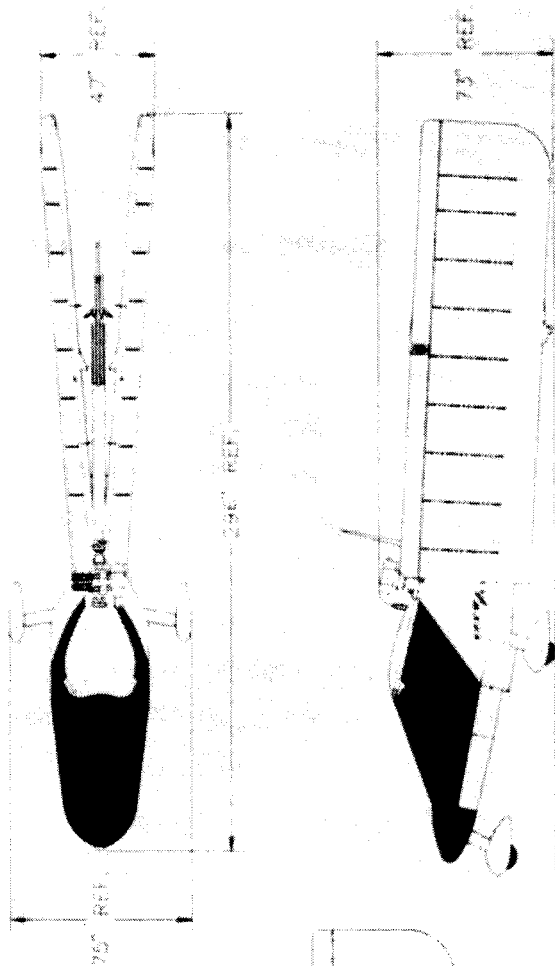
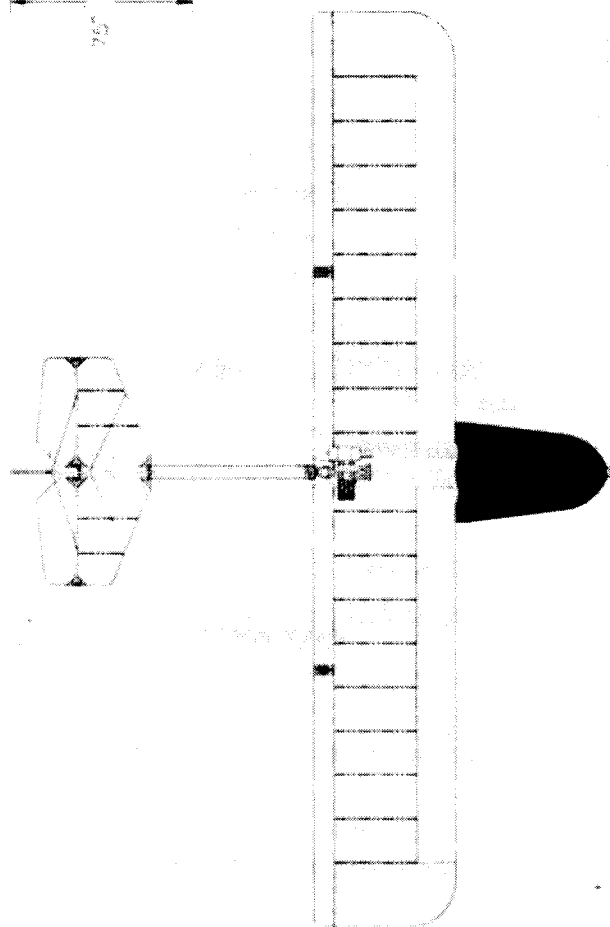


RANS S-12 AIRAILE



RANS
4600 Highway 183 Alternate
Hays, Kansas 67601
(913) 625-6346
FAX (913) 625-2795

DESIGNED BY:
RANDY SCHLITZER

RANS

4600 Highway 183 Alternate
Hays, Kansas 67601
(913) 625-6346
FAX (913) 625-2795

RANS S-12 SPECIFICATIONS & PERFORMANCE

SPECIFICATIONS	47 HP	65 HP	78 HP
Empty Weight	410 lbs.	450 lbs.	500 lbs.
Wing Span	31 ft.	31 ft.	31 ft.
Area	151 sq. ft.	151 sq. ft.	151 sq. ft.
Wing Loading	6 lbs./sq. ft.	6.3 lbs./sq. ft.	6.7 lbs./sq. ft.
Chord	4'10 1/2"	4'10 1/2"	4'10 1/2"
Aspect	6.36:1	6.36:1	6.36:1
Length	20'4"	20'4"	20'4"
(With Fairings)			
Height	6'4"	6'4"	6'4"
Cockpit Width	40"	40"	40"
Head room	40"	40"	40"
Legroom	42.5"	42.5"	42.5"
Gear Width	6'3 1/2"	6'3 1/2"	6'3 1/2"
Power Loading	19.5 lbs./hp	14.7 lbs./hp	12.95 lbs./hp
Seats	2	2	2
(Adjust Fore and Aft)			
Fuel Capacity	12 gal.(U.S.)	13 gal.(U.S.)	13 gal.(U.S.)

POWER PLANT

Engine	Rotax 503	Rotax 582	Rotax 912
Output	47 hp	65 hp	78 hp
Propeller	Wood, 2-Blade	Wood, 2-Blade	Wood, 2-Blade
Reduction	Gear	Gear	Gear
Ratio	2.58:1	2.58:1	2.27:1
Fuel Consumption (85%)	3.75 gal/hr	5 gal/hr	3.75 gal/hr

PERFORMANCE

Take Off Roll	275 ft.	225 ft.	225 ft.
Rate of Climb	500 fpm	1000 fpm	1000 fpm
Service Ceiling	13,500 ft.	15,000 ft.	15,000 ft.
Cruise Speed (85%)*	65 mph	75 mph	80 mph
Maximum Speed (VNE)	100 mph	100 mph	100 mph
Glide Ratio**	7:1	7:1	7:1
Power Off Stall, No Flaps	37 mph	37 mph	37 mph
Power Off Stall, Flaps	33 mph	33 mph	33 mph
Landing Ground Roll	130 ft.	130 ft.	130 ft.
Gross Weight	920 lbs.	960 lbs.	1010 lbs.
Useful Load	510 lbs.	510 lbs.	510 lbs.
Load Factors	+6 -3	+6 -3	+6 -3
Roll Rate	90 °/Sec	90 °/Sec	90 °/Sec
Range (13 Gal.)	3 Hrs.	2.1 Hrs.	3 Hrs.

*With Full Enclosure

**Glide Ratio Is With Partial Enclosure

RANS S-12 AIRAILE

Standard Equipment and Features

—Rotax 503, with dual CDI ignition, 47 HP Power Plant—2-Blade Wood Prop—Semi-Focal 4 Point Rubber Isolated Engine Mount—Steerable Nose Gear—Dual Rudder Pedals—Dual Drum Toe Brakes—6" Nose and Main Gear Spun Aluminum Hegar Wheels—Tubular Spring Steel Main Gear With Spring Loaded Telescoping Nose Gear—Individual Seating Adjusts Fore and Aft 4 Positions—Upholstered Seats With Map Pockets—Dual Control Sticks—Dual Throttles—Single Center Flap Handle—4 Position Flaps—Standard Instruments Include: ASI, RPM, CHT, Hour Meter in Center Mount Console—Aluminum Airfoil Struts—3" Main Wing Spar and Root Tube—2" Trailing Wing Spar—5" x .065 6061—T6 Tailboom—RANS Exclusive Composite Root Rib Wing Skin Tension System—Wings Fold or Detach—Folding Juv Struts—Welded 4130 Cockpit Cage Comes Powder Coated—Fuel Sump Drain—6.5 Gal. Fuel Tank in each wing—Lap and Shoulder Belts—Dual Elevator Horns Operated by 1 1/4" Push Pull Tube—Push Pull Tube Ailerons With 2:1 Differential—Folding Tail for Storage—4 oz. Dacron Skin—EFFICIENT MODIFIED NACA 2412 AIRFOIL

NO PAINTING*, FABRIC WORK OR WELDING REQUIRED

BUILD TIMES

Stock	100 to 175
Partial Enclosure	200 to 250
Full Enclosure	300 to 350

BASE PRICE - KIT - \$10,700.00

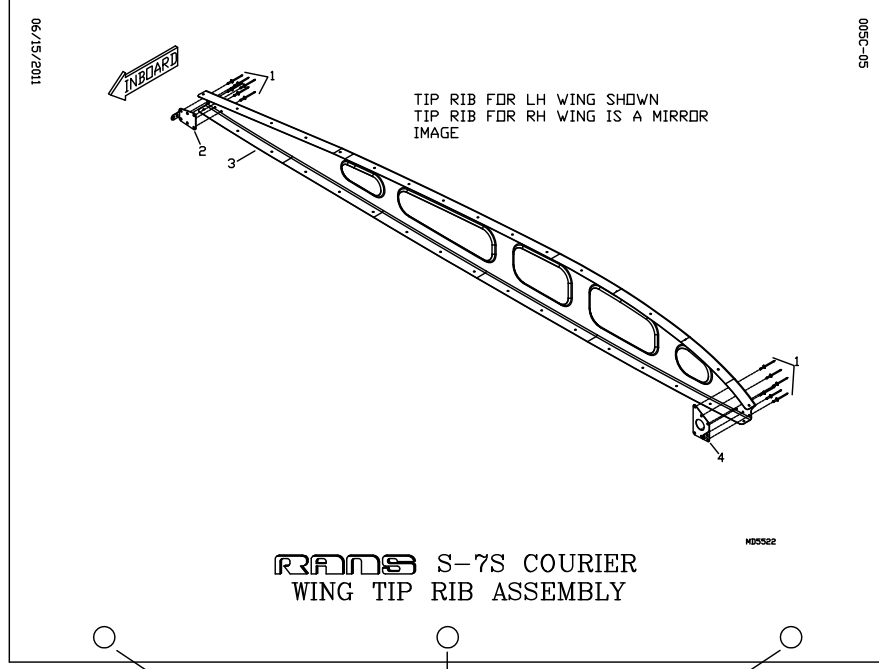
See price sheet for optional equipment

*Enclosure pieces provided unpainted. 2024-T3 ALCLAD can be polished or painted.

STEP 1:

PARTS MANUAL AS SHIPPED or PRINTED.
PLACE IN 3-RING BINDER TO SECURE.

PARTS DRAWING PAGE



3-HOLE PUNCH

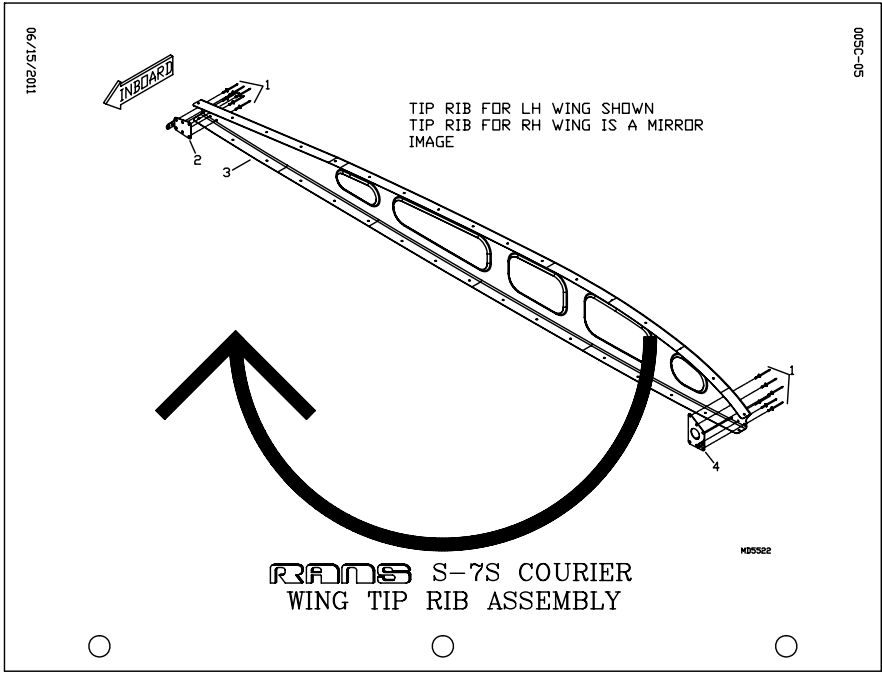
EXAMPLE ONLY.
MAY NOT REPRESENT ACTUAL PAGES
FROM YOUR MANUAL.

SEE NEXT PAGE

STEP 2:

OPEN 3-RING BINDER.
REMOVE PARTS DRAWING PAGE AND
ROTATE 180° TO FACE
CORRESPONDING
PARTS DESCRIPTION PAGE.
REPEAT FOR REMAINING PAGES

PARTS DRAWING PAGE



PARTS DESCRIPTION PAGE

S-7S COURIER - WING - TIP RIB ASSEMBLY				PAGE 005C-06	
#	DESCRIPTION	PART NUMBER	QUANTITY		
1.	1/8" ALUMINUM RIVET	AAQ-41	24		
2.	RIB CLIP TRAILING EDGE - LH	KPW0372-L	4		
2.	RIB CLIP TRAILING EDGE - RH	KPW0372-R	1		
3.	WING TIP RIB - LH	KPW0544-L	1		
3.	WING TIP RIB - RH	KPW0544-R	1		
4.	RIB CLIP LEADING EDGE - LH	KPW0373-L	1		
4.	RIB CLIP LEADING EDGE - RH	KPW0373-R	1		

6/15/2011

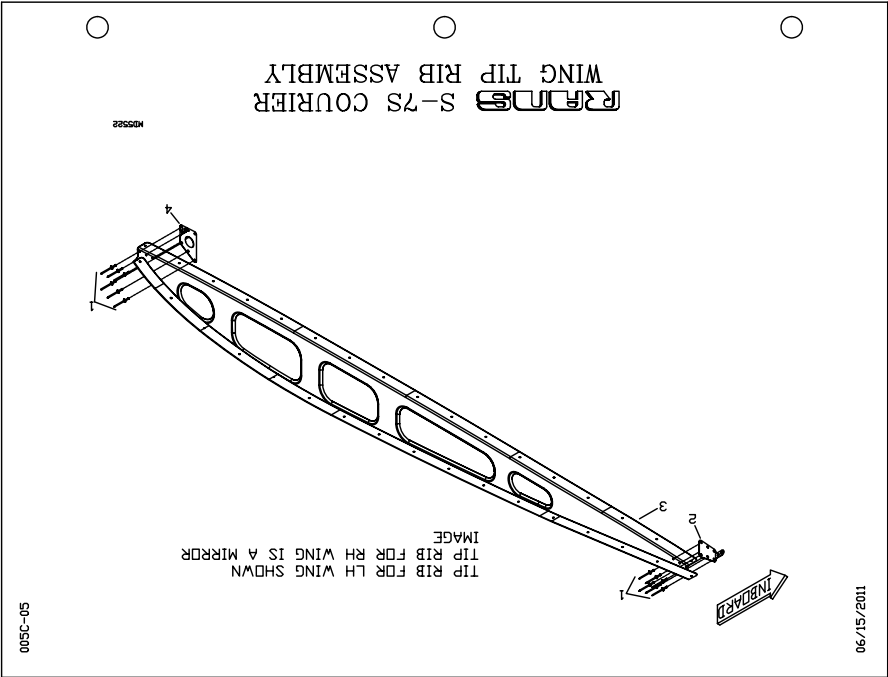
EXAMPLE ONLY.
MAY NOT REPRESENT ACTUAL PAGES
FROM YOUR MANUAL.

SEE NEXT PAGE

STEP 3:

PARTS DRAWING PAGE
FACES CORRESPONDING
PARTS DESCRIPTION PAGE
WHEN FINAL SECURED IN
BINDER

PARTS DRAWING PAGE



PARTS DESCRIPTION PAGE

S-7S COURIER - WING - TIP RIB ASSEMBLY			
#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/8" ALUMINUM RIVET	AAPQ-41	24
2.	RIB CLIP TRAILING EDGE - LH	KPW0372-L	4
2.	RIB CLIP TRAILING EDGE - RH	KPW0372-R	1
3.	WING TIP RIB - LH	KPW0544-L	1
3.	WING TIP RIB - RH	KPW0544-R	1
4.	RIB CLIP LEADING EDGE - LH	KPW0373-L	1
4.	RIB CLIP LEADING EDGE - RH	KPW0373-R	1

EXAMPLE ONLY.
MAY NOT REPRESENT ACTUAL PAGES
FROM YOUR MANUAL.

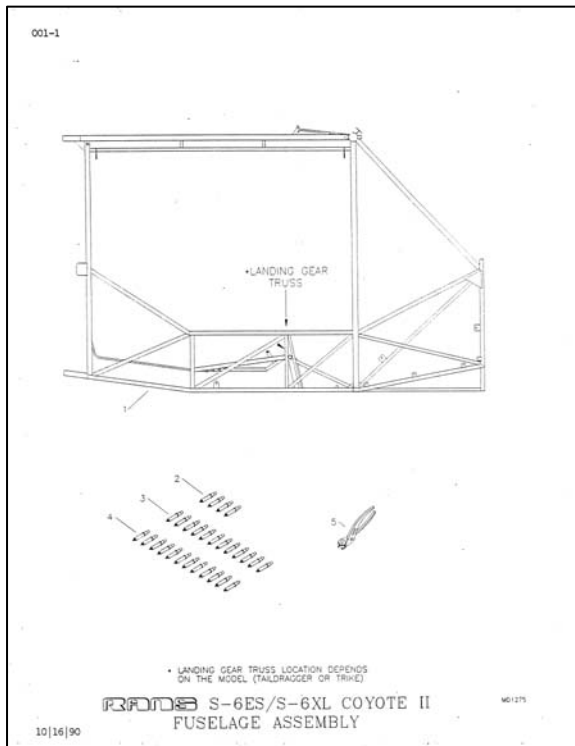
S-12 AIRAILE GENERAL INFORMATION

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Flight Log Book	FLIGHT LOG	1
2.	Maintenance Log Book	MAINTENANCE LOG	1
3.	Assembly Manual	ASSEMBLY MANUAL	1
4.	Poster	POSTER	1
5.	Experimental Decal Sheets	EXPER-DECAL	1
6.	Range Decal	RANGE-DECAL	1
7.	10" Tubing	1/4X028X10	1
8.	1/2" X .035 X 12' Anodized Aluminum	1/2X035X12	3
9.	1/2" X .035 X 4' Anodized Aluminum	1/2X035X4	1
10.	3/8" X .058 X 6" Anodized Aluminum	3/8X058X6 ALUM TUBE	1

The RANS CD manual is designed to be printable on 3-hole punched paper on your home printer. If you have the pre-printed manual, follow the directions for rotation below.

If you desire to NOT print the pages, you may use the features available with ADOBE Reader to rotate the pages on your computer screen.

After the manual pages are printed, rotate the Parts Drawing page 180° to face the Parts List page. See the diagram below.



Parts Drawing page

001-2

S-6ES COYOTE II - FUSELAGE

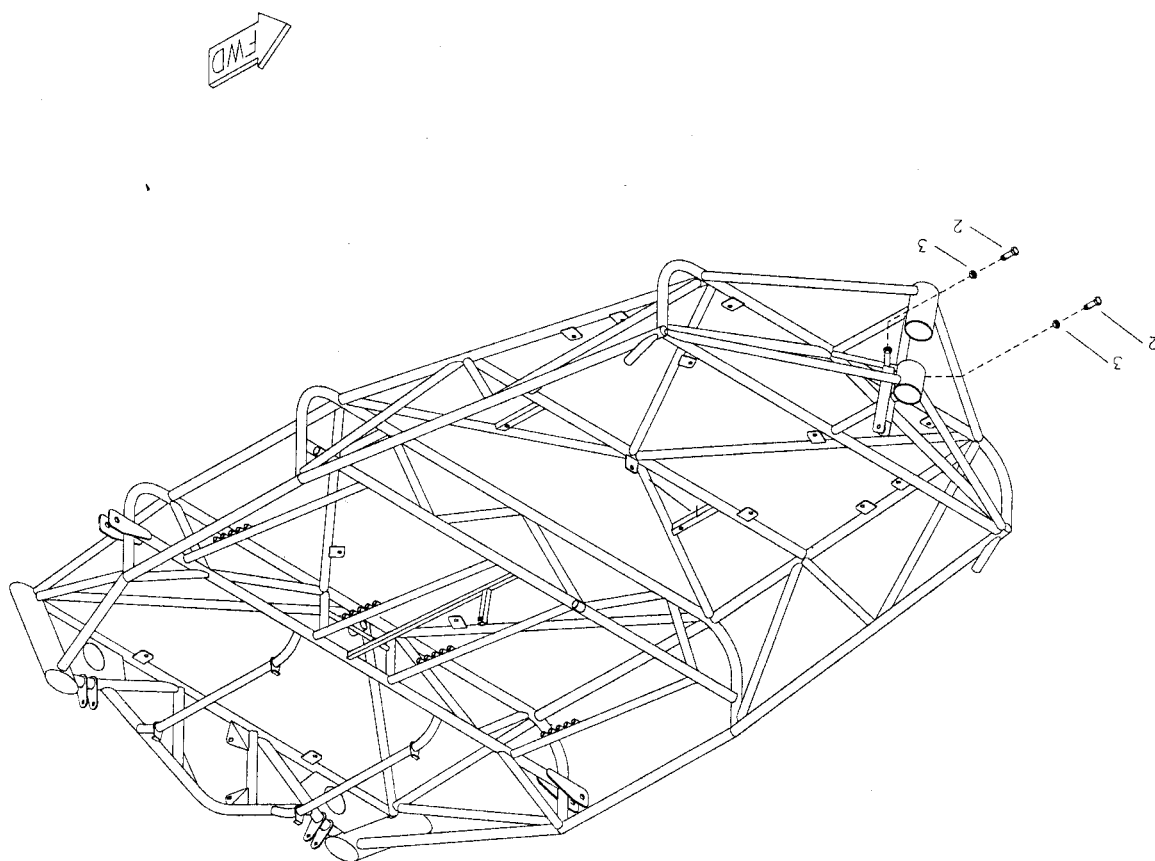
#	DESCRIPTION	PART NUMBER	QUANTITY
1.	S-6ES Fuselage (Taildragger)	KAFU0003	1
1.	S-6ES Fuselage (Trike)	KAFU0005	1
2.	#40 Silver Clecos	#40CLECOS	4
3.	#30 Copper Clecos	#30CLECOS	12
4.	#11 Gold Clecos	#11CLECOS	1
5.	Cleco Pliers	CLECO PLIERS	1

2/24/98

Parts List page

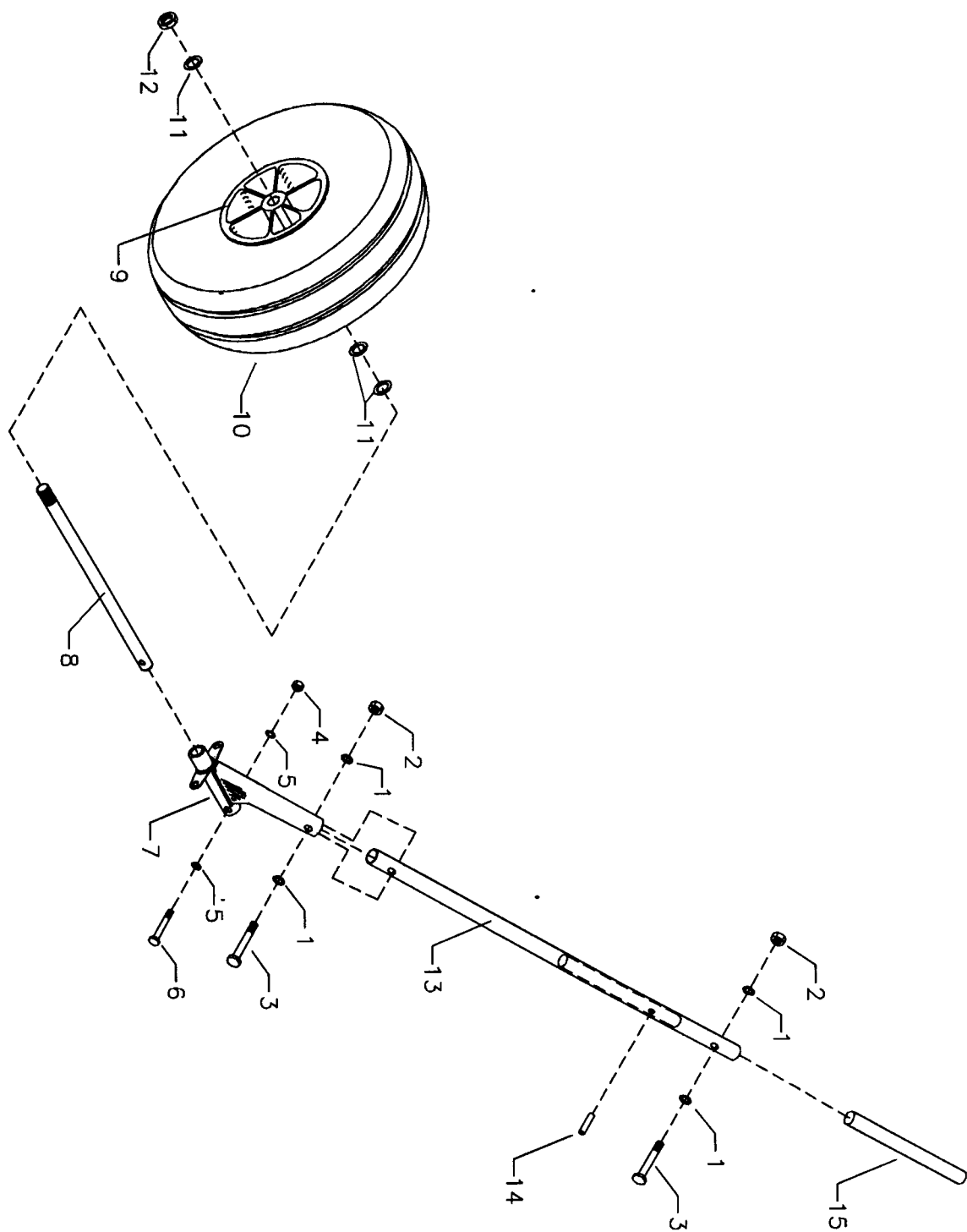
RMS S-12 AIRAILE COCKPIT CAGE ASSEMBLY

MD1824



S-12 AIRAILE COCKPIT CAGE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Cockpit Cage	CC-CC-151	1
2.	1/4" Bolt	AN4-4A	2
3.	1/4" Plain Nut	AN345-416	2



RRP S-12 AIRAIL MAIN LANDING GEAR

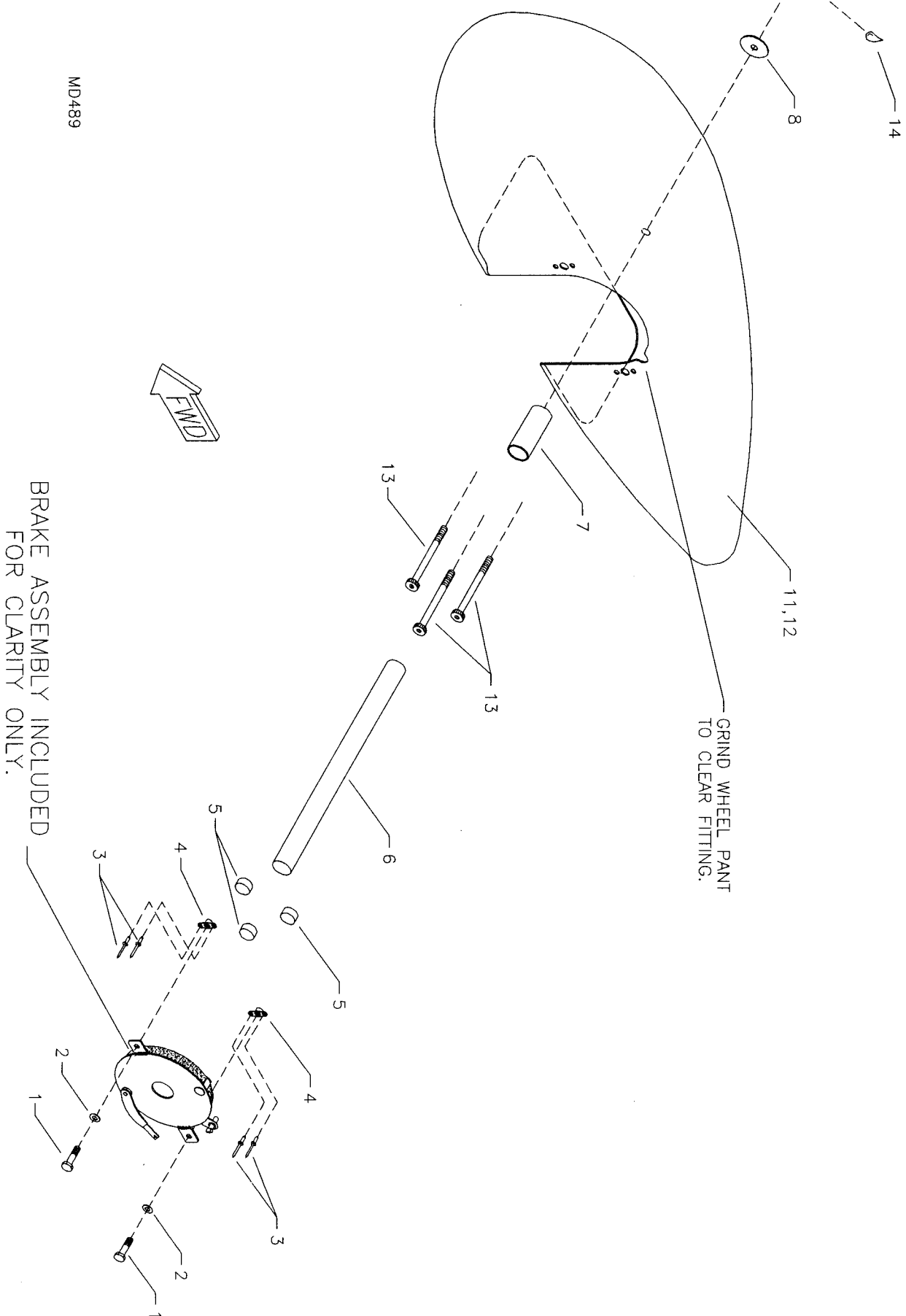
MD249

S-12 AIRAILE MAIN GEAR

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Thick Washer	AN960-416	8
2.	1/4" Shear Nut	AN364-428A	4
3.	1/4" Bolt	AN4-17A	4
4.	3/16" Shear Nut	AN364-1032A	2
5.	3/16" Thin Washer	AN960-10L	4
6.	3/16" Bolt	AN3-12A	2
7.	Main Gear Axle Socket	LG-A-SOC	2
8.	Axle	LG-AXLE	2
9.	6" Hegar Main Gear Rim Kit	LG-MW-RIM	2
9.	6" Hegar Main Gear Hub Kit	LG-MW-HUB	2
10.	6" Tire (W/Wheel)	LG-T	2
11.	5/8" Shim	5/8 SHIM	6
12.	5/8" Loc Nut	5/8 LOCNUT	2
13.	Gear Leg	LG-GL	2
14.	Roll Pin, 1/4" X 5/8"	KSHW0003	2
15.	Gear Leg Doubler	KPMG0015	2

NOTE: Tundra tire options inflate to 9 lbs maximum.

3/24/93



MD489

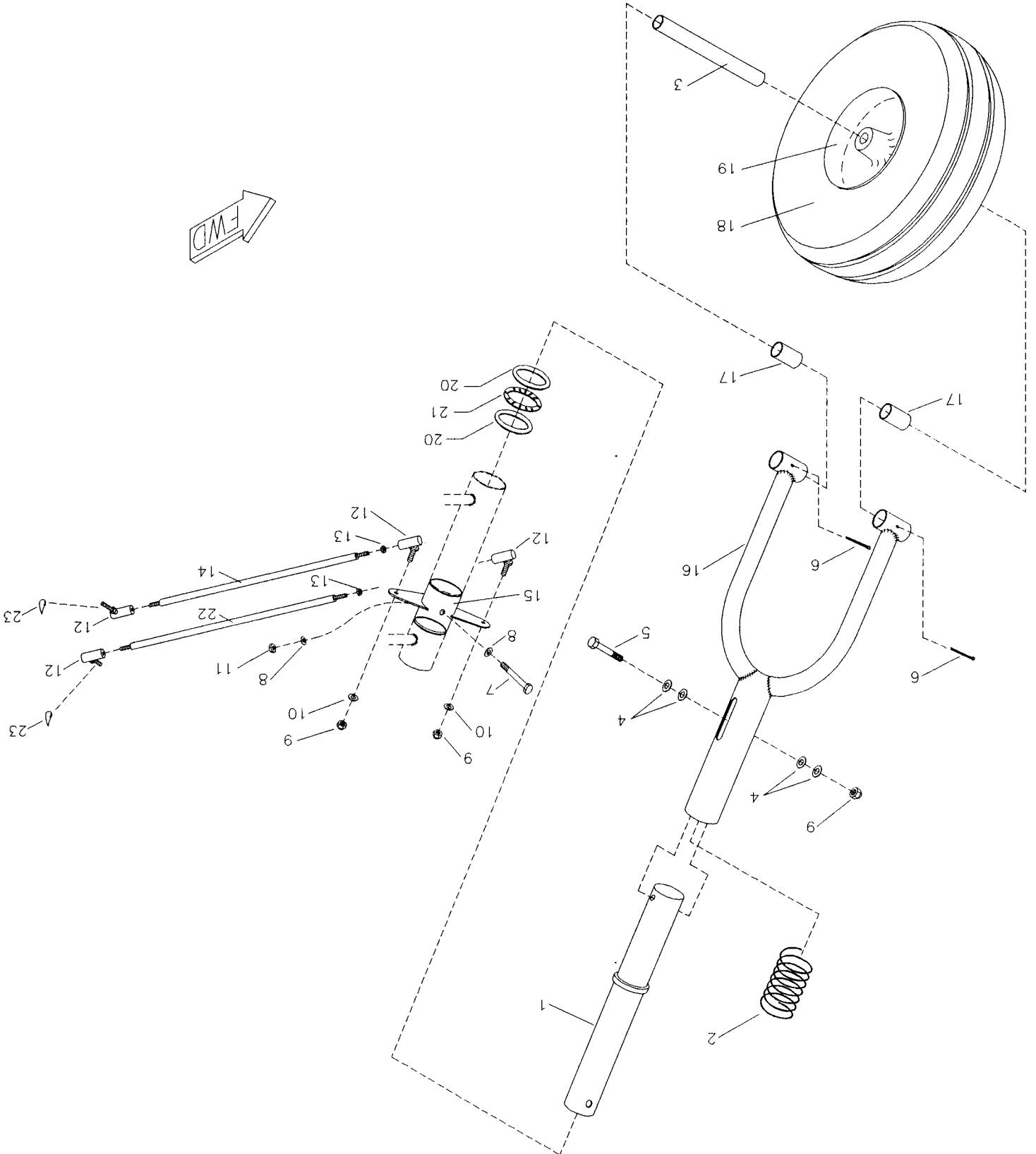
S-12 AIRAILLE MAIN WHEEL PANT ASSEMBLY

S-12 AIRAILE MAIN WHEEL PANTS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Bolt	AN3-4A	4
2.	3/16" Plastic Washer	PW-3	4
3.	3/32" Aluminum Pop Rivet	40APR1/8	8
4.	3/16" Nut Plate	K-1000-3	4
5.	Drum Spacer	MWP-DS	6
6.	Axle, 9"	MWP-AXLE	2
7.	Outside Spacer	MWP-OS	2
8.	3/16" Large Wood Washer	AN970-3	2
9.	3/16" Bolt	AN3-4A	2
10.	Inner Spacer	3/4X1/2SLEEVE	2
11.	Main Wheel Pant, LH	MWP-LH	1
12.	Main Wheel Pant, RH	MWP-RH	1
13.	5/16" Hex Bolt	5/16X24X2 1/4	6

RMS S-12 AIRALE NOSE GEAR ASSEMBLY

MD418

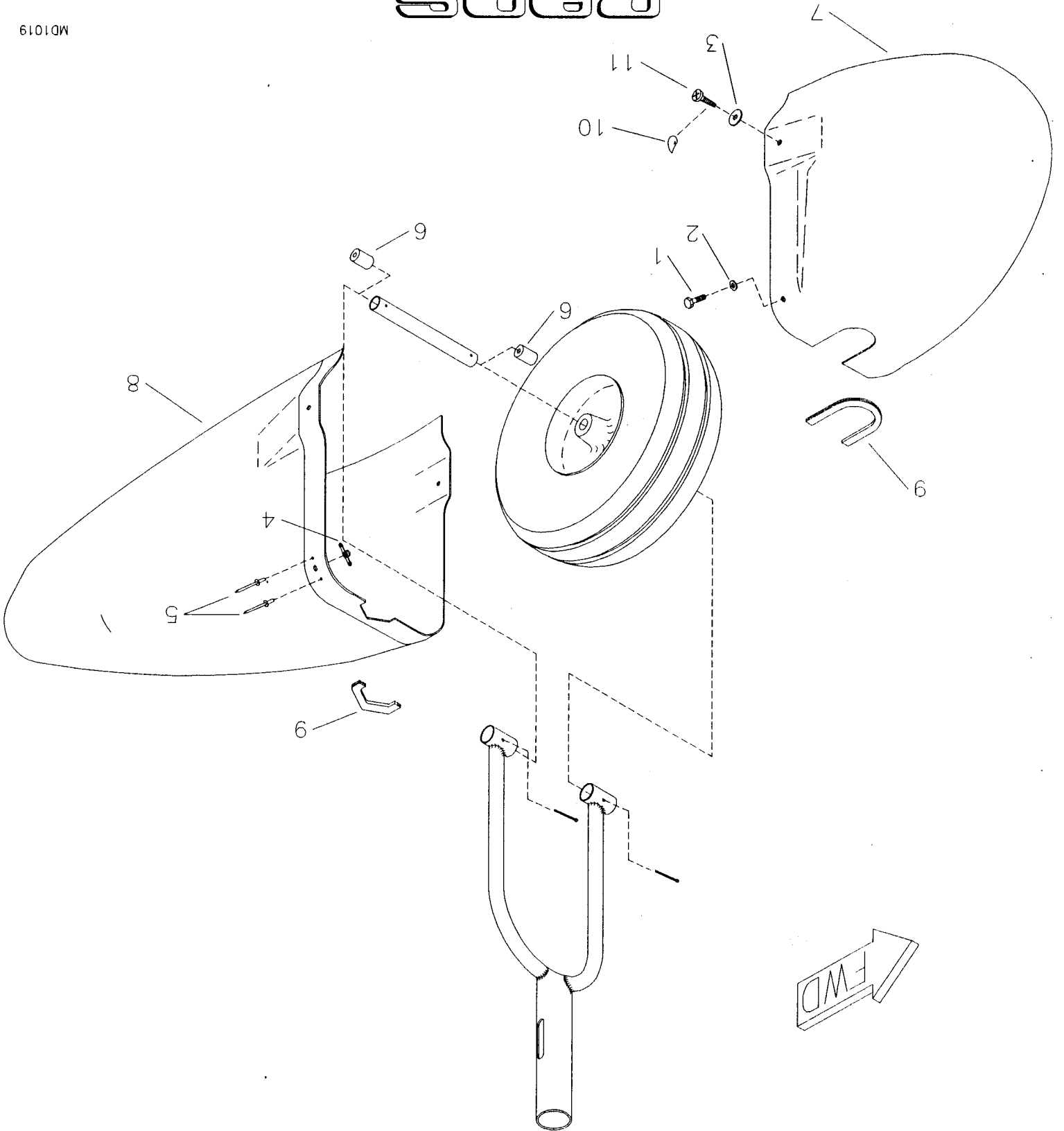


S-12 AIRAILE NOSE GEAR

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Nose Gear Fork Strut	NG-STRUT	1
2.	Spring	10372	1
3.	Axle 4130, 7 1/2" X 5/8" X.058	NG-AXLE	1
4.	1/4" Plastic Washer (Reference)	PW-4	0
5.	1/4" Bolt (Reference)	AN4-22A	0
6.	Large Cotter Pin	MS24665-285	2
7.	3/16" Bolt	AN3-20A	1
8.	3/16" Thin Washer	AN960-10L	2
9.	1/4" Shear Nut (Reference)	AN364-428A	2
10.	1/4" Thin Washer	AN960-416L	2
11.	3/16" Shear Nut	AN364-1032A	1
12.	Steering Linkage	NG-SL	4
13.	1/4" Plain Nut	AN345-416	2
14.	Steer Rod, 9 3/4" LH	NG-ROD-9 3/4-LH	1
15.	Steer Horn	KPNG0020	1
16.	Fork	NG-FORK-12	1
17.	Wheel Bushing	NG-WB	2
18.	6" Tire	LG-T	1
19.	Hegar Nosewheel Rim	LG-NW-RIM	1
19.	Hegar Nosewheel Hub	LG-NW-HUB	1
20.	Bearing Washer	TRA2435	2
21.	Thrust Bearing	NTA2435	1
22.	Steer Rod, 10 3/4" RH	NG-ROD-10 3/4-RH	1

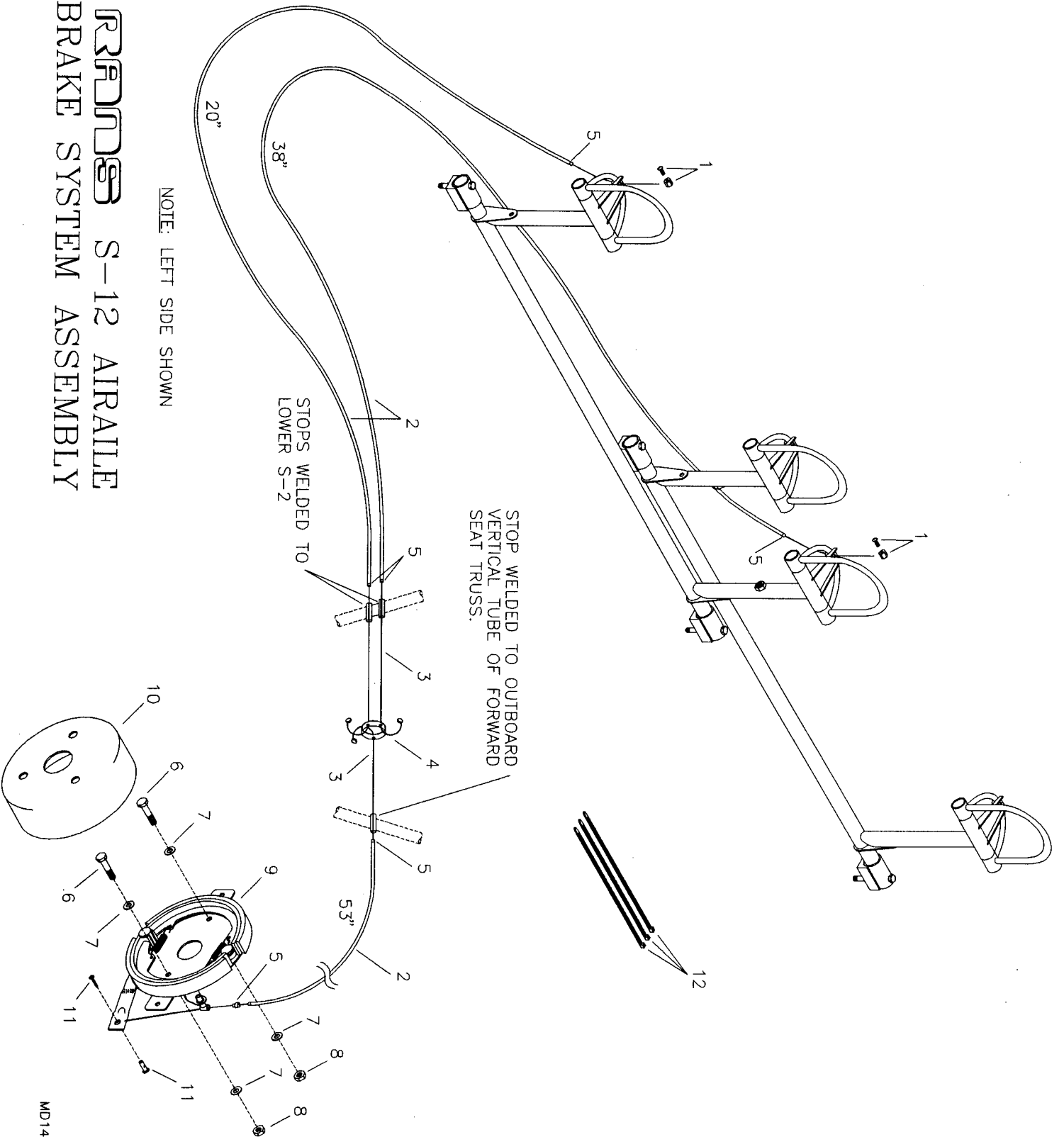
S-6ES/S-6S/S-6XL/S-12/S-14 RRMS NOSE WHEEL PANT

MD1019



S-12 AIRAILE NOSE WHEEL PANT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Bolt	AN3-5A	2
2.	3/16" Thick Washer	AN960-10	2
3.	3/16" Large Wood Washer	AN970-3	2
4.	3/16" Nut Plate	K-1000-3	2
5.	3/32" Aluminum Pop Rivet	40APR1/8	4
6.	Attach Sleeve	NWP-AS	2
7.	Nose Wheel Pant, FWD	NWP-FWD	1
8.	Nose Wheel Pant, AFT	NWP-AFT	1
9.	Rubber Trim, 8"	X1011	1
10.	Loctite Blue	LOCTITE BLUE	0
11.	Self Tapping Screw	9008A242	2



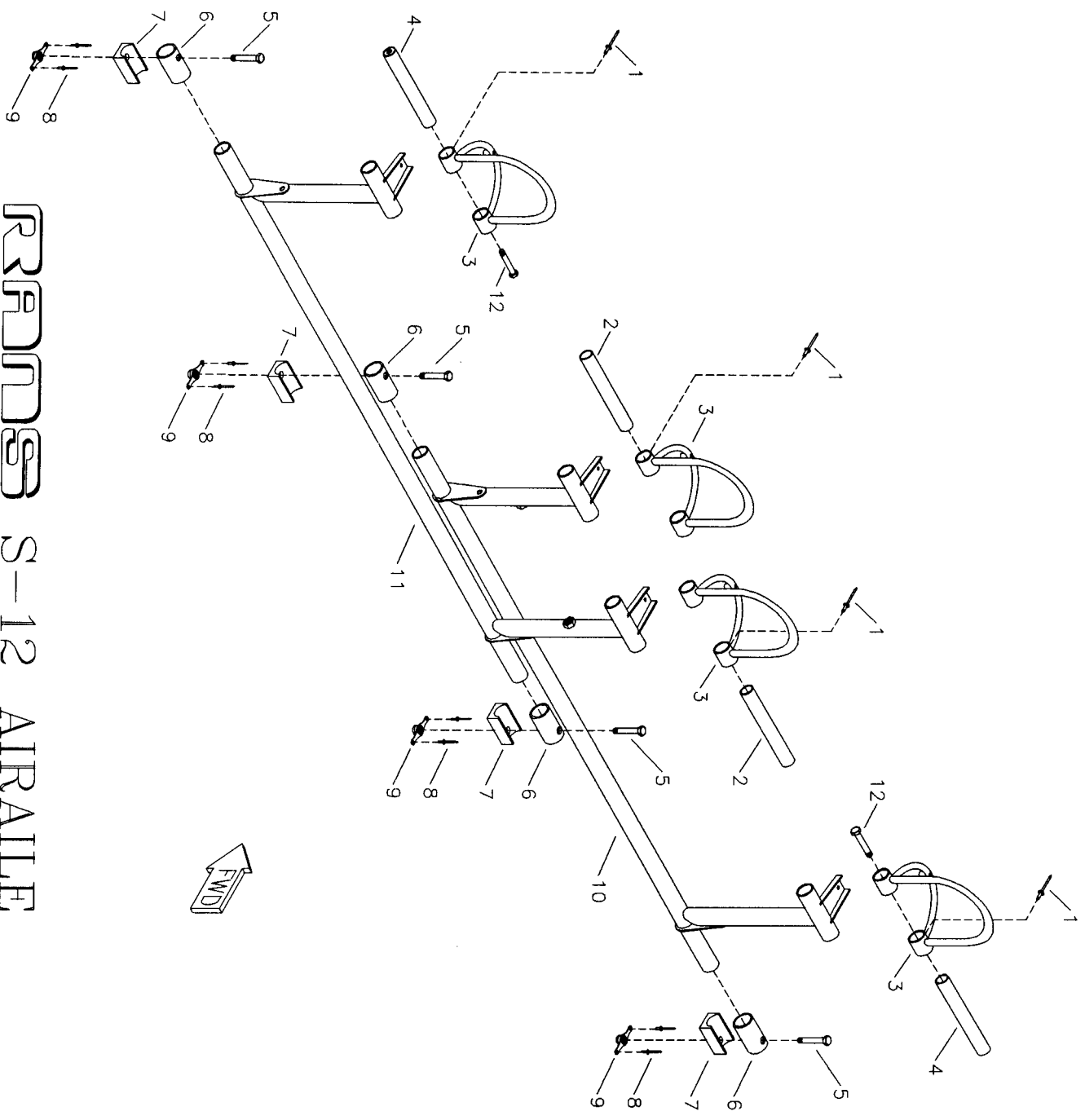
NOTE: LEFT SIDE SHOWN

RAJON S-12 AIRAILE BRAKE SYSTEM ASSEMBLY

MD1408

S-12 AIRAILE BRAKE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Wire Stop/Screw	2360	4
2.	Large Cable Housing, 22'	B-CH20	1
3.	Brake Cables, 105"	B-C105	6
4.	Brake Line Mixer Ring	B-MIX-R	2
5.	Ferrule End Cap	80-0002-01	12
6.	3/16" Bolt	AN3-5A	4
7.	3/16" Thick Washer	AN960-10	8
8.	3/16" Shear Nut	AN364-1032A	4
9.	4 1/2" Brake (LH/RH)	2269	2
10.	4 1/2" Brake Drum	2211	2
11.	Wire Swivel Stop	2361	2
12.	Zip Ties	ZIP TIES	6

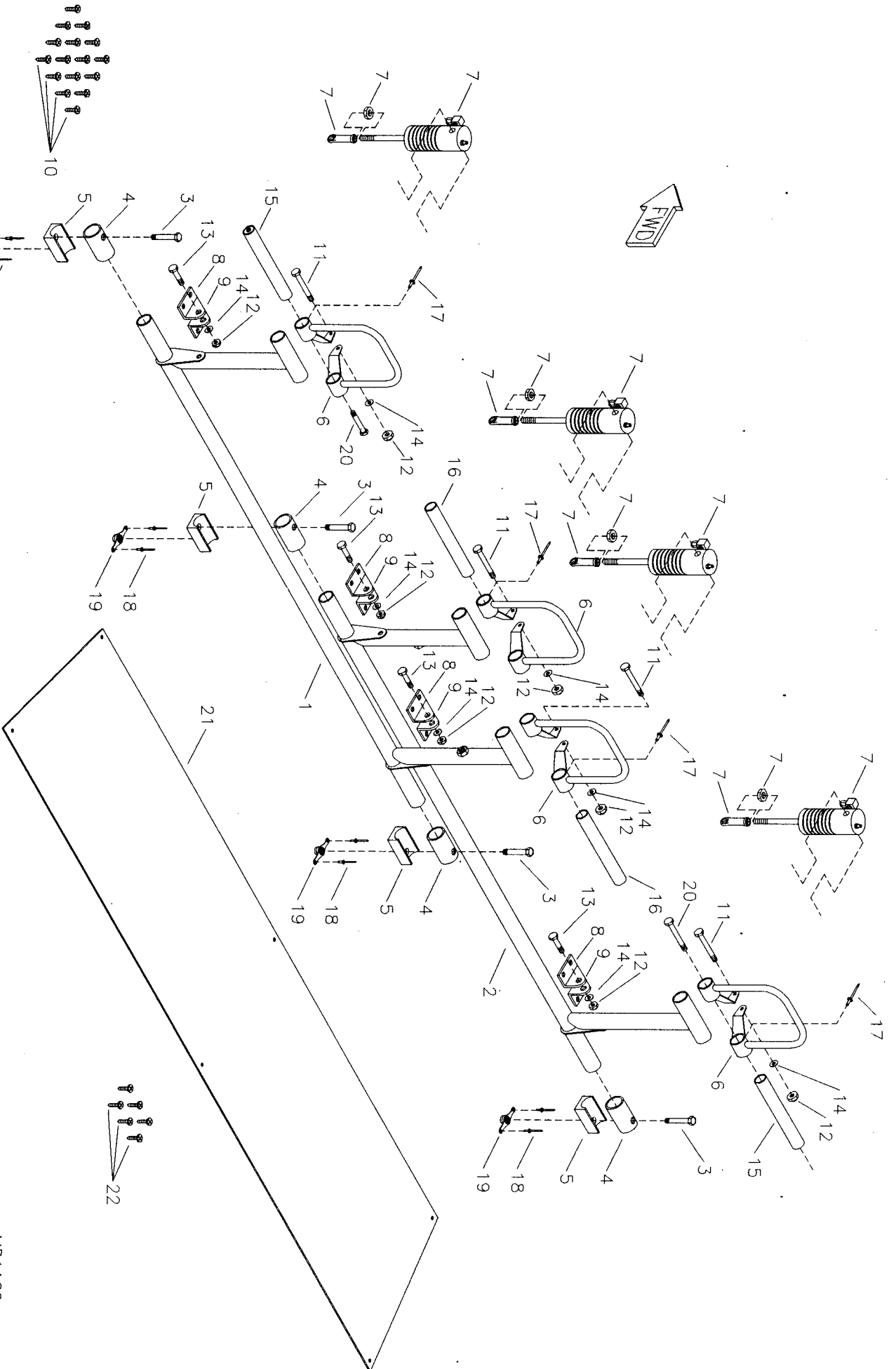


MD1163

REMS S-12 AIRAILE MECHANICAL BRAKES/RUDDER PEDALS

S-12 AIRAILE MECHANICAL BRAKES/RUDDER PEDALS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/8" Stainless Steel Pop Rivet (-4 Hyd. Brake)	30SSPR1/8	4
2.	Swivel Bushing (-2 Hyd. Brake)	KPCS0025	2
3.	Brake Pedal/Mechanical Brake (-4 Hyd. Brake)	KPBS0006	4
4.	Swivel Bushing (-2 Hyd. Brake)	KPCS0023	2
5.	3/16" Bolt (-4 Hyd. Brake)	AN3-13A	4
6.	Rudder Pedal Bushing (-4 Hyd. Brake)	KPCS0017	4
7.	Brake Saddle (-4 Hyd. Brake)	KPCS0024	4
8.	3/32" Aluminum Pop Rivet (-8 Hyd. Brake)	40APR1/8	8
9.	3/16" Nut Plate (-4 Hyd. Brake)	K-1000-3	4
10.	Rudder Pedal/Mechanical Brake (-1 Hyd. Brake)	KPCS0032-R	1
11.	Rudder Pedal/Mechanical Brake (-1 Hyd. Brake)	KPCS0032-L	1
12.	3/16" Bolt (-2 Hyd. Brake)	AN3-12	2

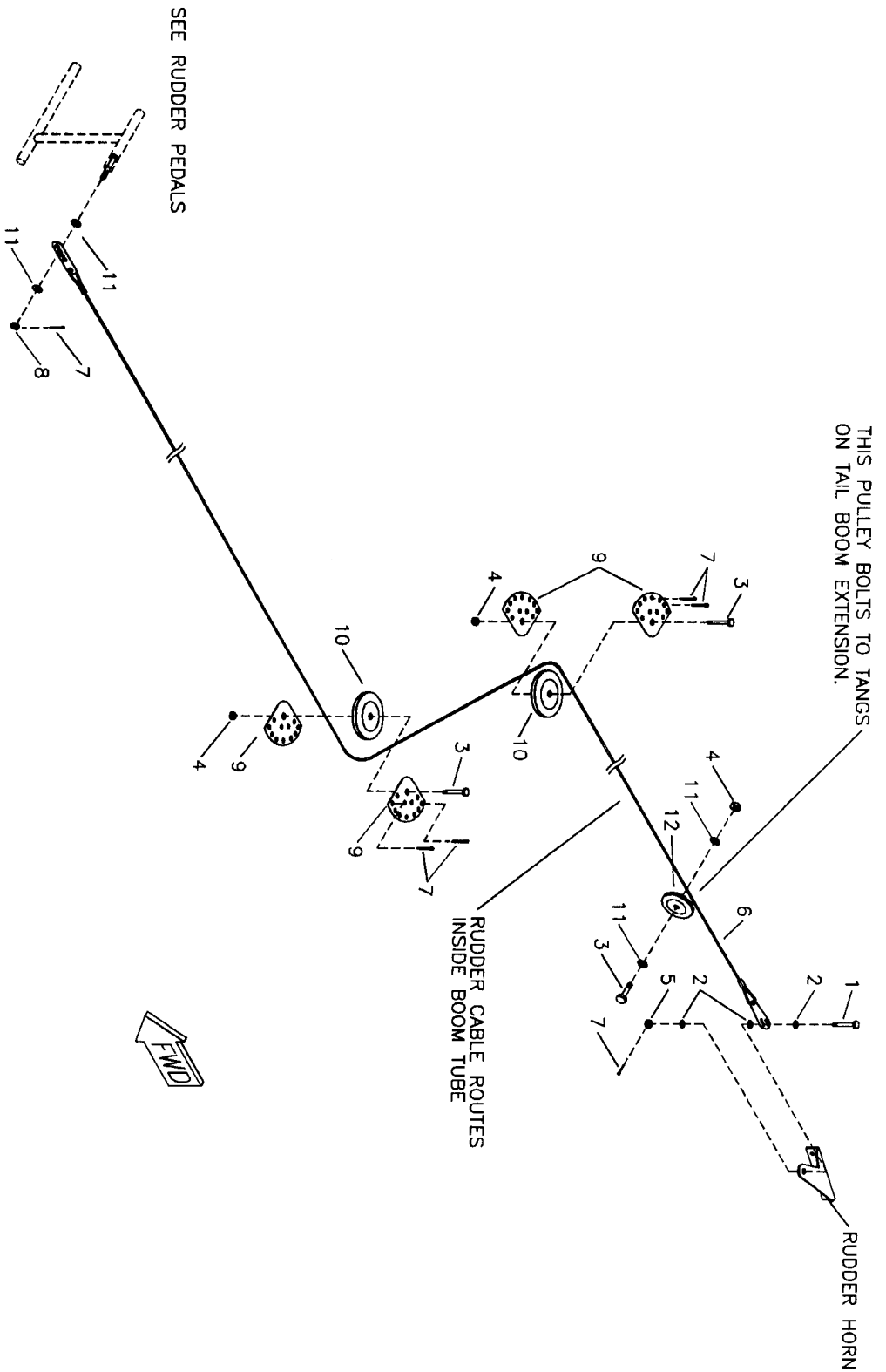


R-1190 S-12 AIRRAIL HYDRAULIC BRAKES/RUDDER PEDALS

S-12 AIRAILE HEGAR HYDRAULIC BRAKES/RUDDER PEDALS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Rudder Pedal, LH	KPCS0022-L	1
2.	Rudder Pedal, RH	KPCS0022-R	1
3.	3/16" Bolt	AN3-13A	4
4.	Rudder Pedal Bushing	KPCS0017	4
5.	Brake Saddle	KPCS0024	4
6.	Brake Pedal	KPCS0021	4
7.	Dual Hydraulic Brake Kit	HEGAR-HYD-BRAKE	1
8.	Brake Mount Bracket, LH	B-MBRKT-L	4
9.	Brake Mount Bracket, RH	B-MBRKT-R	4
10.	#8 Pan Head Screw	8X1/2-PHS	16
11.	1/4" Bolt	AN4-15A	4
12.	1/4" Shear Nut	AN364-428A	8
13.	1/4" Bolt	AN4-10A	4
14.	1/4" Thick Washer	AN960-416	8
15.	Swivel Bushing	KPCS0023	2
16.	Swivel Bushing	KPCS0025	2
17.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	4
18.	3/32" Aluminum Pop Rivet	40APR1/8	8
19.	3/16" Nut Plate	K-1000-3	4
20.	3/16" Bolt	AN3-12	2
21.	Wear Plate	KPFU0017	1
22.	Small Pan Head Screw	PHS-4X1/4	6

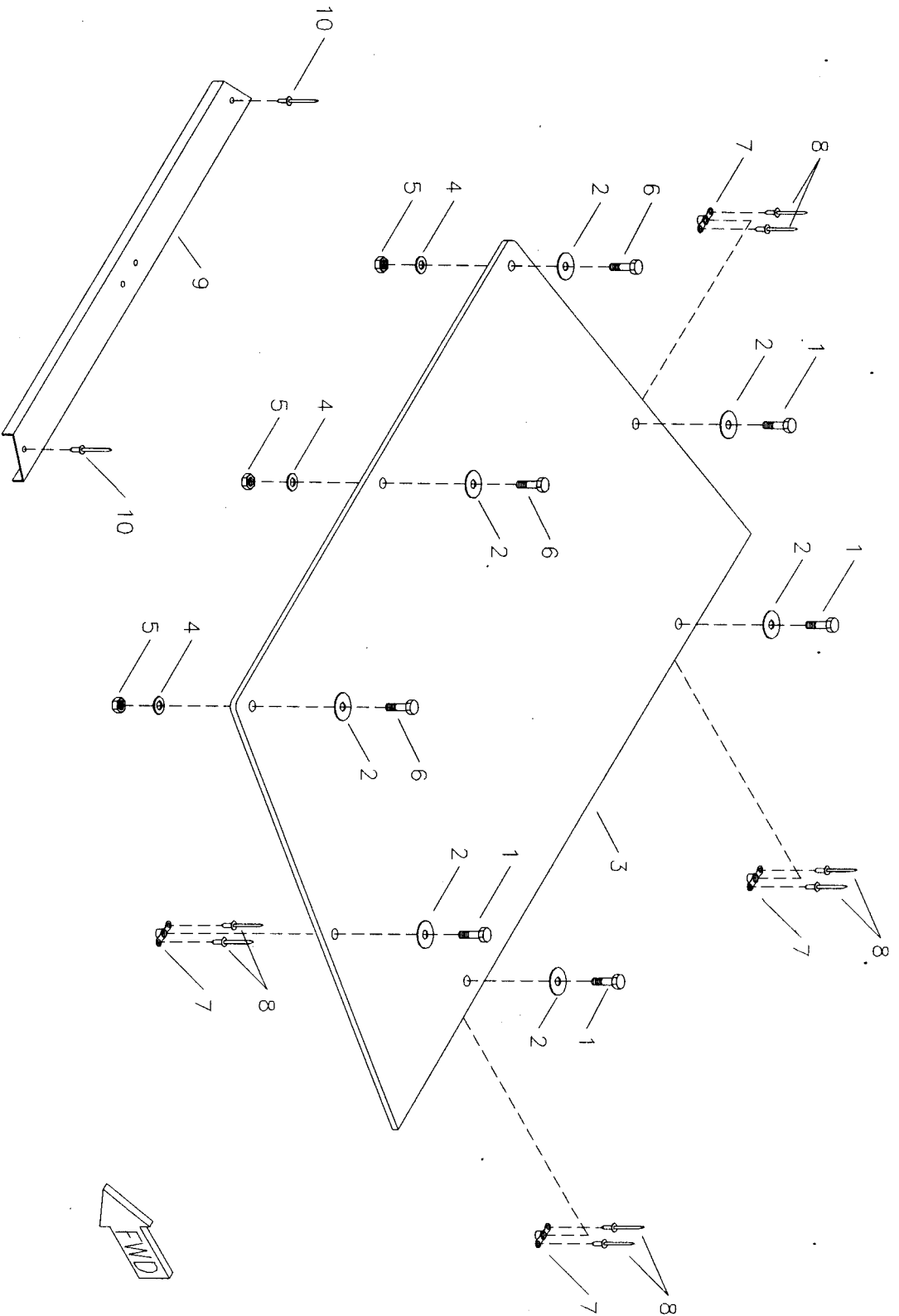
Used on Serial #498 and up.



S-12 AIRAILE RUDDER CABLE SYSTEM

S-12 AIRAILE RUDDER CABLES

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Bolt	AN3-6A	2
2.	3/16" Thick Washer	AN960-10	6
3.	3/16" Bolt	AN3-7A	6
4.	3/16" Shear Nut	AN364-1032A	6
5.	3/16" Tensile Nut	AN365-1032A	2
6.	Rudder Cable	R-RC-151	2
7.	Small Cotter Pin	MS24665-134	11
8.	3/16" Castle Nut	AN310-3	2
9.	Small Pulley Cable Keeper	SP-CK	8
10.	Pulley	AN210-2A	4
11.	3/16" Thin Washer	AN960-10L	8
12.	Small Pulley	AN210-1A	2



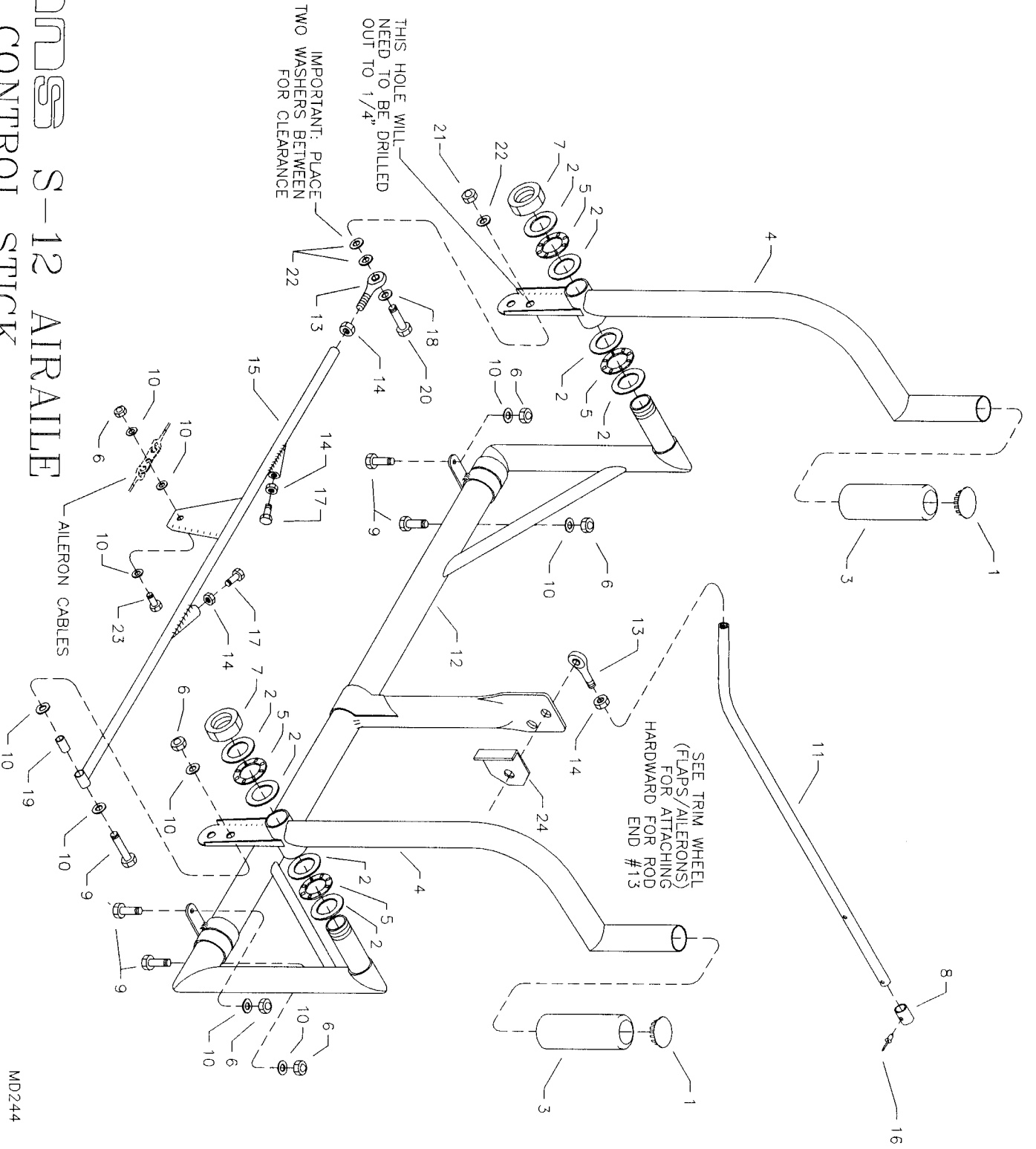
RRM S-12 AIRAIL FLOORBOARD ASSEMBLY

MD1244

S-12 AIRAILE FLOORBOARD

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Bolt	AN3-5A	4
2.	3/16" Large Wood Washer	AN970-3	7
3.	Floorboard	FB-FB	1
4.	3/16" Thick Washer	AN960-10	3
5.	3/16" Shear Nut	AN364-1032A	3
6.	3/16" Bolt	AN3-12A	3
7.	3/16" Nut Plate	K-1000-3	4
8.	3/32" Aluminum Pop Rivet	40APR1/8	8
9.	Floorboard Support Channel	KPFU0013	1
10.	3/16" Stainless Steel Pop Rivet	12SSPR1/4	2

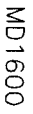
RRRONS S-12 AIRRALE CONTROL STICK



S-12 AIRAILE CONTROL STICK

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	7/8" End Cap	CS-EC	2
2.	Bearing Washer	CS-BW	8
3.	Grip	CS-G	2
4.	Control Stick	CS-CS	2
5.	Thrust Bearing	CS-TB	4
6.	3/16" Shear Nut	AN364-1032A	6
7.	3/4" Nyloc Nut	CS-3/4LOCNUT	2
8.	Elevator Stop Sleeve	CS-ESS	1
9.	3/16" Bolt	AN3-10A	5
10.	3/16" Thin Washer	AN960-10L	10
11.	5/8" Push Pull Tube	CS-5/8PPT	1
12.	Control Stick Torque Tube	CS-TT	1
13.	Male Rod End, 1/4" x 1/4"	NM-4	2
14.	1/4" Plain Nut	AN345-416	4
15.	Control Stick Link Tube	CS-CSLT-2	1
16.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	1
17.	1/4" Bolt	AN4-4A	2
18.	1/4" Plastic Washer	PW-4	1
19.	Spacer Bushing**, 1/4" X 17/32"	SB-1/4X17/32	1
20.	1/4" Bolt	AN4-10A	1
21.	1/4" Shear Nut	AN364-428A	1
22.	1/4" Thick Washer	AN960-416	3
23.	3/16" Bolt	AN3-4A	1
24.	Control Stick Forward Elevator Stop (Reference)	CS-FWDES	0

**Fabricate from 1/4" X .035 raw stock (1/4" X 17/32").



S-12 AIRAILE AILERON PUSH PULL SYSTEM

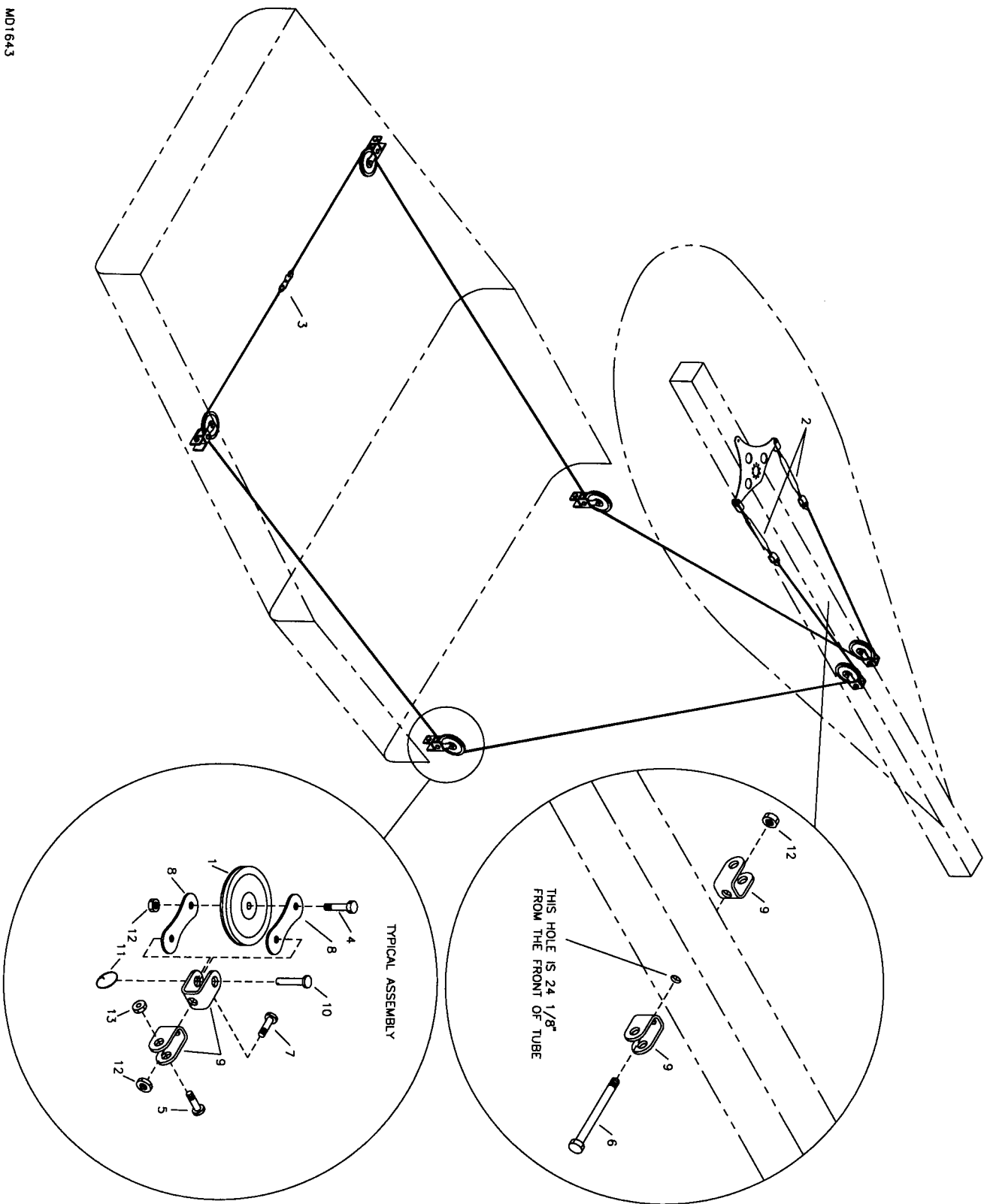
#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Bolt	AN4-22A	2
2.	1/4" Thin Washer	AN960-416L	5
3.	Male Rod End, 1/4" X 1/4"	NM-4	8
4.	1/4" Bolt	AN4-7A	4
5.	1/4" Shear Nut	AN364-428A	4
6.	3/16" Plastic Washer	PW-3	2
7.	1/4" Plain Nut	AN345-416	4
8.	Aileron Push Pull Tube, 42 1/8"	CS-42PPT	2
9.	Bearing Flange	BR-FLNG	6
10.	Bell Crank	AIL-2/1BC	2
11.	Aileron Push Pull Tube, 109"	CS-109PPT	2
12.	Bell Crank Gusset, RH	CS-BELGU-RH	1
12.	Bell Crank Gusset, LH	CS-BELGU-LH	1
13.	1/4" Bolt	AN4-37A	1
14.	Compression Tube Doubler	CS-CTD	2
15.	1/4" Plastic Washer	PW-4	6
16.	1/8" Aluminum Pop Rivet, 1/4"	30APR1/4	24
17.	3/16" Bolt	AN3-7A	2
18.	Spacer Bushing*, 1/4" X 3/8"	SB-1/4X3/8	2
19.	3/16" Shear Acorn Nut	22NKM02	2
20.	1/4" Thick Washer	AN960-416	9
21.	1/4" Acorn Nut, Shear	52NKTE-048	3
22.	Push Pull Tube Guide**	CS-PPTG	2
23.	Bearing	SR4APP	6
24.	Control Stick Tee	CS-TEE14	1
25.	1/4" Castle Nut	AN310-4	1
26.	Loc Ring	RL 27 1/4	1
27.	1/4" Bolt	AN4-13	1
28.	Stand Off, 3/4" X 3/4"	SO-3/4X3/4	1
29.	Push Pull Tube End Fitting	CS-3/4PTEF	8
30.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	34

*Fabricate from 1/4" X .035 aluminum tube.

**This part is also fabricated from a plastic blank provided. Make Two
Dimensions appear in assembly instructions

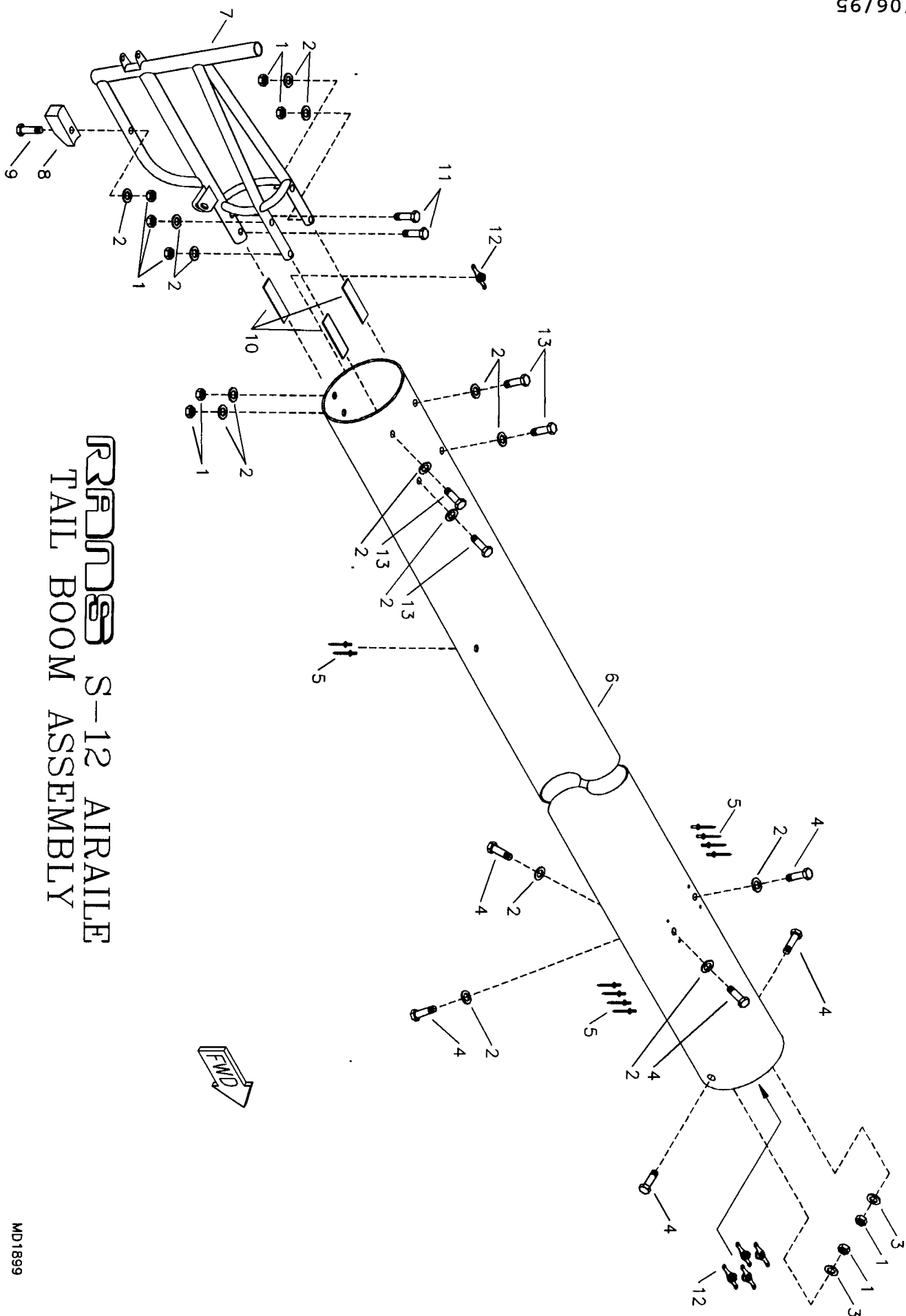
MD1643

RRRMM S-12 AIRRAIL ALLERON CABLE SYSTEM ASSEMBLY



S-12 AIRAILE (151) AILERON CABLES

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Pulley	AN210-2A	6
2.	Turnbuckle (With Pins and Loc Rings)	RL-335-AT	2
3.	Aileron Cables	AIL-CAB-151	1
4.	3/16" Bolt	AN3-6A	6
5.	3/16" Bolt	AN3-7A	6
6.	3/16" Bolt	AN3-24A	1
7.	3/16" Bolt	AN3-3A	6
8.	Hummertang	T12-HT6	12
9.	Shackle	RL-205-T	14
10.	Clevis Pin	MS20392-2C17	6
11.	Loc Ring	RL 27 1/4	6
12.	3/16" Shear Nut	AN364-1032A	21
13.	Pulley Assembly		6

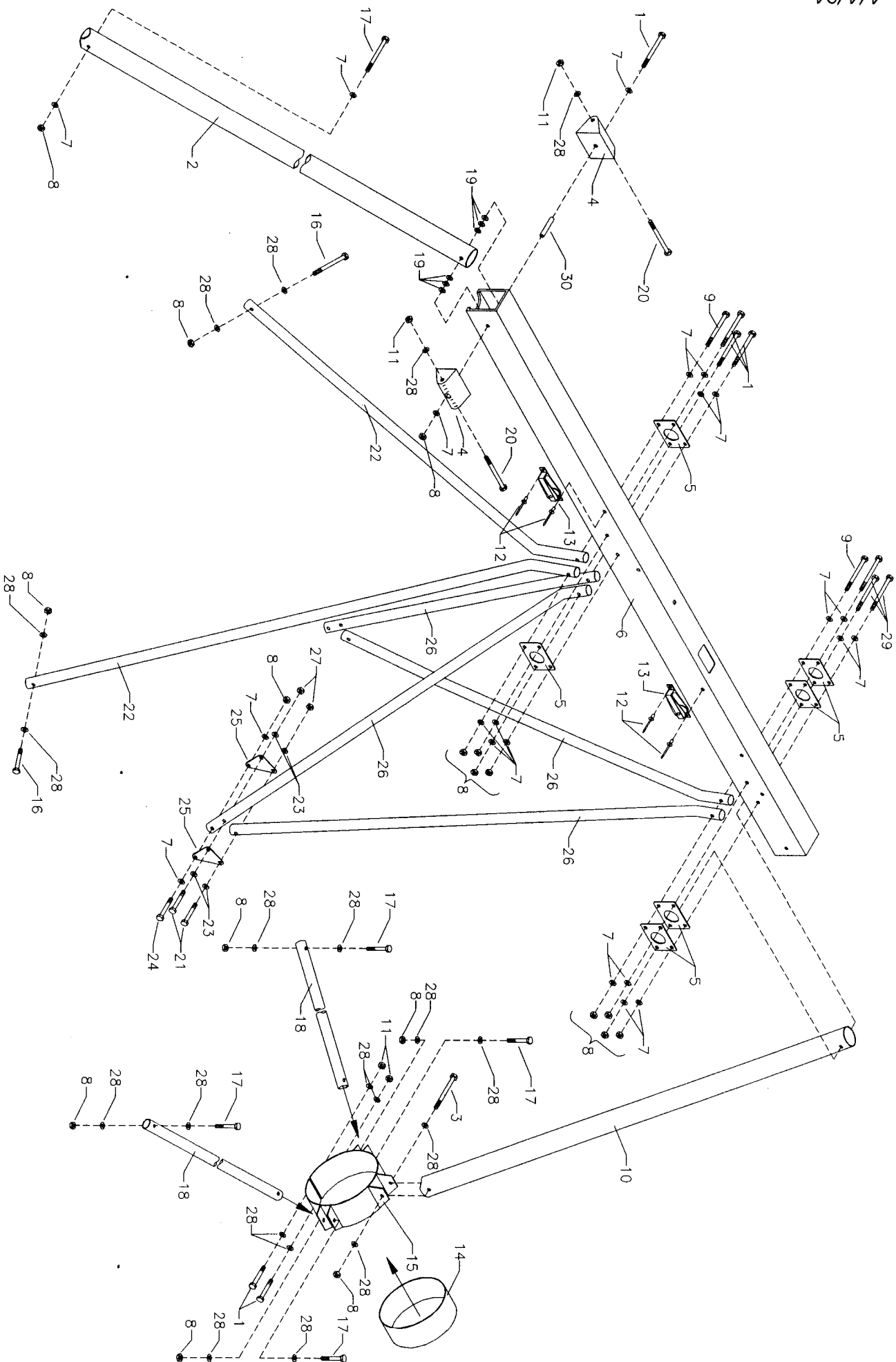


S-12 AIRAILLE TAIL BOOM ASSEMBLY

S-12 AIRAILE TAIL BOOM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Shear Nut	AN364-1032A	9
2.	3/16" Thin Washer	AN960-10L	15
3.	3/16" Thick Washer	AN960-10	2
4.	3/16" Bolt	AN3-4A	6
5.	3/32" Aluminum Pop Rivet	40APR1/8	10
6.	Tail Boom	TB-TB	1
7.	Tail Boom Extension	TB-EXT	1
8.	Skid Block	TB-SB	1
9.	3/16" Bolt	AN3-20A	1
10.	Lexan Strips*, 1" X 3"	TB-LS-1X3	3
11.	3/16" Bolt	AN3-12A	2
12.	3/16" Nut Plate	K-1000-3	5
13.	3/16" Bolt	AN3-10A	4

*Fabricate by cutting from plastic strip. See super structure.



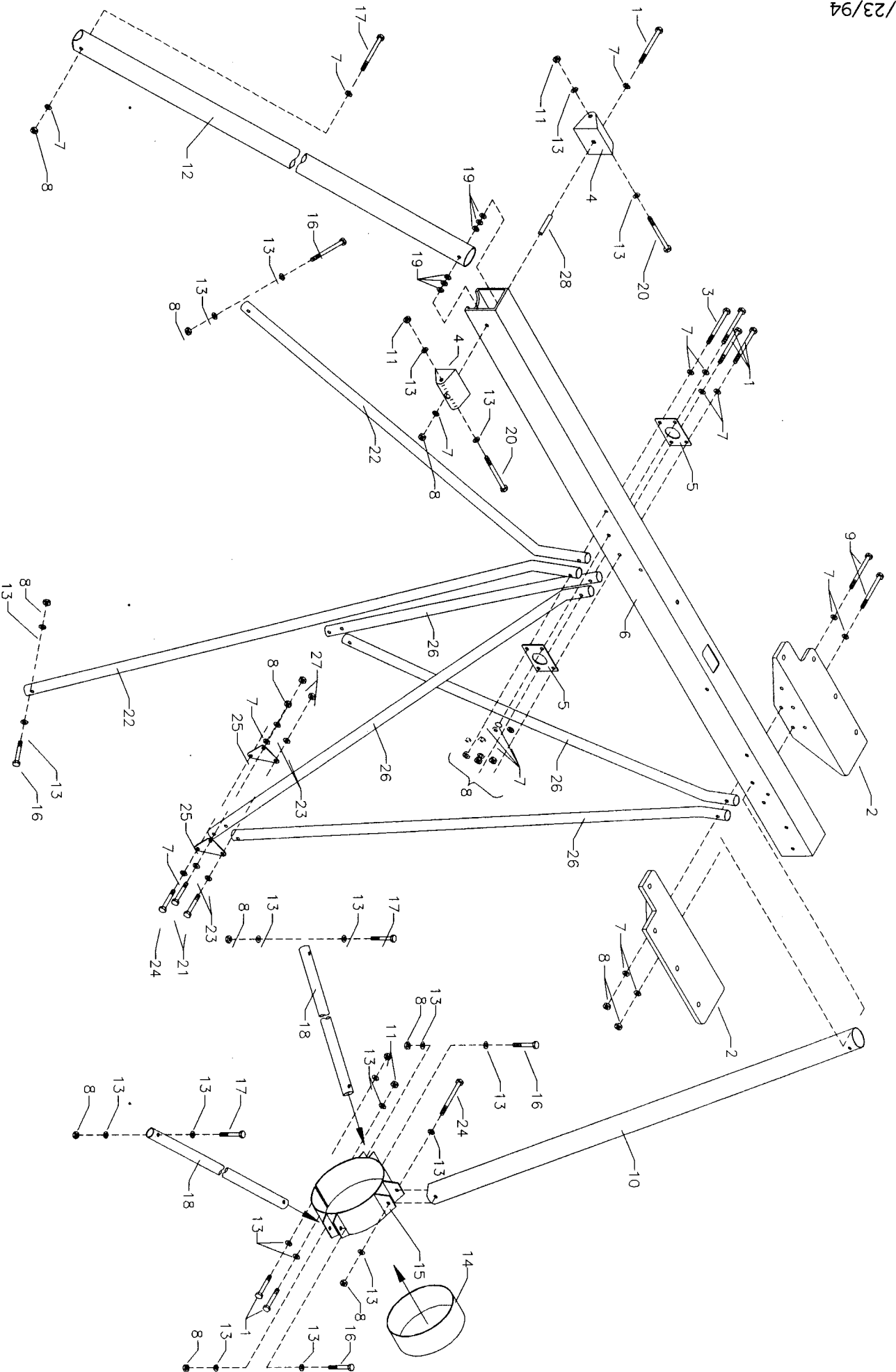
RAMS S-12 AIRRAIL SUPER STRUCTURE

S-12 AIRAILE SUPER STRUCTURE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Bolt	AN4-26A	6
2.	Forward Strut	SS-FWD-STRUT	1
3.	1/4" Bolt	AN4-24A	1
4.	U-Bracket	W-BRKT	2
5.	Keel Plate	K-KP	6
6.	Keel	SS-KEEL-151	1
7.	1/4" Thick Washer	AN960-416	24
8.	1/4" Shear Nut	AN364-428A	19
9.	1/4" Bolt	AN4-27A	2
10.	2" AFT Strut	SS-AFT-S2	1
11.	1/4" Tensile Nut	AN365-428A	4
12.	3/16" Stainless Steel Pop Rivet**	12SSPR1/4	4
13.	Starter Pulley**	109	2
14.	Plastic Strip* (3" X 20" X .020)	K-PS	1
15.	Tail Boom Bracket, 2"	SS-TBB-2	1
16.	1/4" Bolt	AN4-15A	2
17.	1/4" Bolt	AN4-14A	5
18.	Lower Tail Brace	SS-LTB	2
19.	3/8" Thick Washer	AN960C-616	6
20.	1/4" Bolt	AN4-33A	2
21.	3/16" Bolt	AN3-15A	4
22.	Forward Cabaine, RH	SS-FWD-CAB-RH	1
22.	Forward Cabaine, LH	SS-FWD-CAB-LH	1
23.	3/16" Thin Washer	AN960-10L	8
24.	1/4" Bolt	AN4-17A	2
25.	Triangle Plate	AUF-13	4
26.	Middle Cabaine, LH	SS-MID-CAB-LH	2
26.	Middle Cabaine, RH	SS-MID-CAB-RH	2
27.	3/16" Shear Nut	AN364-1032A	4
28.	1/4" Thin Washer	AN960-416L	22
29.	1/4" Bolt	AN4-30A	3
30.	3/8" X .058 X 2" Bushing	SB-3/8X2	1

*PLEASE NOTE: (3) 1" X 3" strips are cut from this for the the Tail Boom. See Tail Boom.

**Delete with electric starter option.



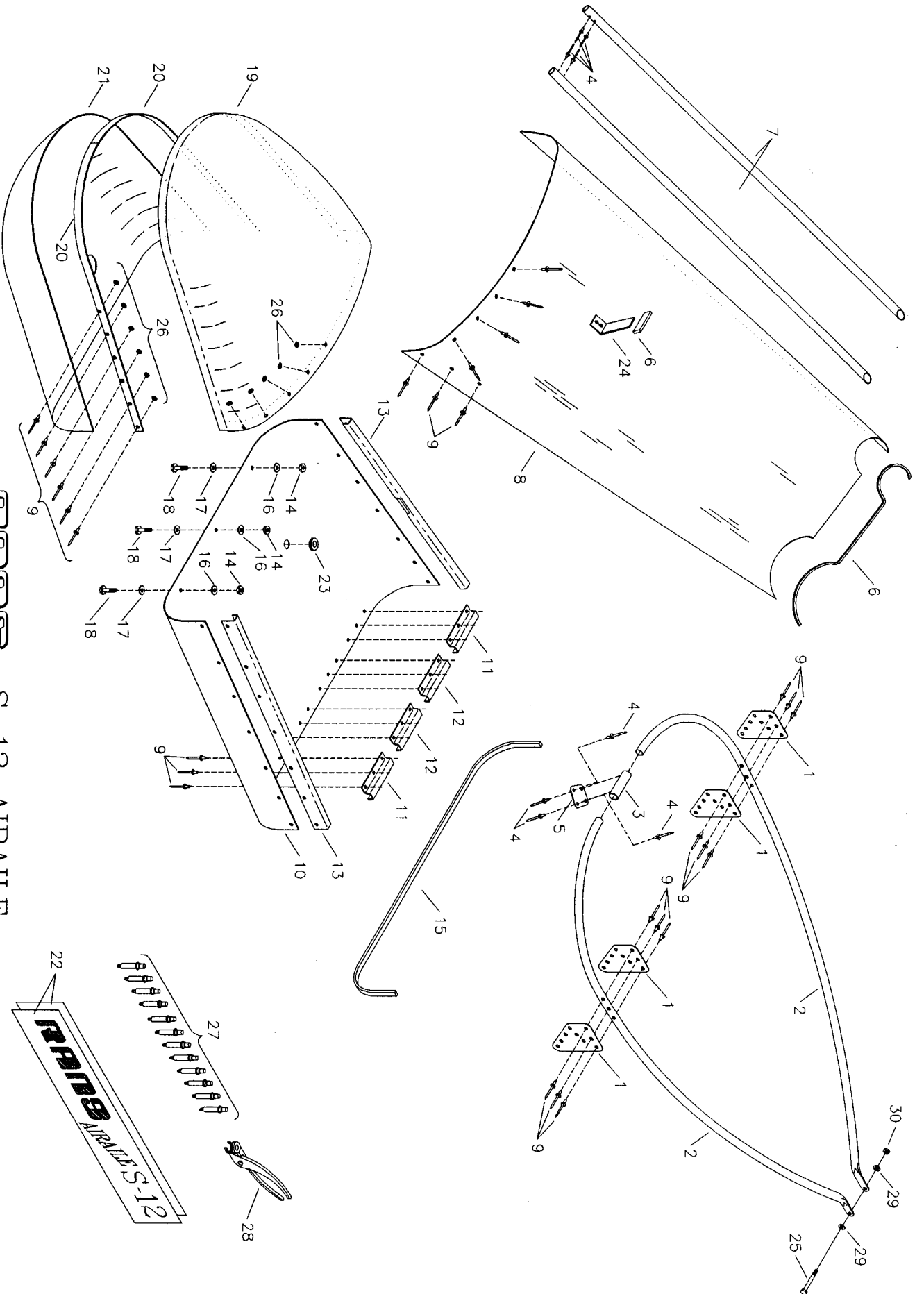
912 SUPER STRUCTURE

MD859

S-12 AIRAILE 912 SUPER STRUCTURE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Bolt	AN4-26A	6
2.	Engine Mount Angles	SEE ENGINE	0
3.	1/4" Bolt	AN4-27A	1
4.	U-Bracket	W-BRKT	2
5.	Keel Plate	K-KP	2
6.	Keel	SS-KEEL-151	1
7.	1/4" Thick Washer	AN960-416	20
8.	1/4" Shear Nut	AN364-428A	17
9.	1/4" Bolt	SEE ENGINE	0
10.	2" AFT Strut	SS-AFT-S2	1
11.	1/4" Tensile Nut	AN365-428A	4
12.	Forward Strut	SS-FWD-STRUT	1
13.	1/4" Thin Washer	AN960-416L	22
14.	Plastic Strip* (3" X 18" X .020)	K-PS	1
15.	Tail Boom Bracket	SS-TBB	1
16.	1/4" Bolt	AN4-15A	4
17.	1/4" Bolt	AN4-14A	3
18.	Lower Tail Brace	SS-LTB	2
19.	3/8" Thick Washer	AN960C-616	6
20.	1/4" Bolt	AN4-33A	2
21.	3/16" Bolt	AN3-15A	4
22.	Forward Cabaine, RH	SS-FWD-CAB-RH	1
22.	Forward Cabaine, LH	SS-FWD-CAB-LH	1
23.	3/16" Thin Washer	AN960-10L	8
24.	1/4" Bolt	AN4-17A	3
25.	Traingle Plate	AUF-13	4
26.	Middle Cabaine	SS-MID-CAB	4
27.	3/16" Shear Nut	AN364-1032A	4
28.	3/8 X .058 X 2" Bushing	SB-3/8X2	1

*PLEASE NOTE: (3) 1" X 3" strips are cut from this for the Tail Boom. See Tail Boom.

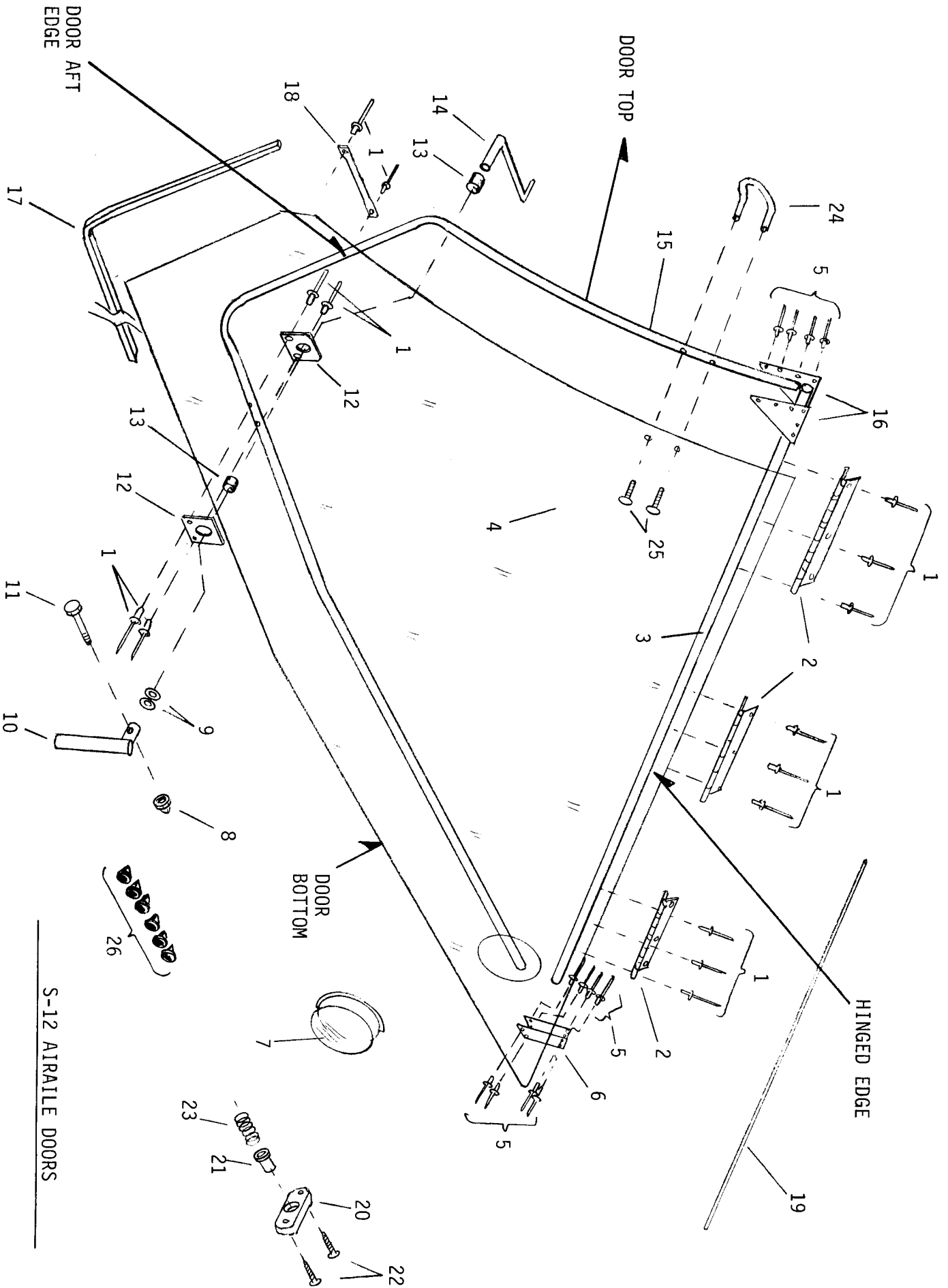


RAFAEL S-12 AIRRAIL
PARTIAL POD ASSEMBLY

MD1636

S-12 AIRAILE PARTIAL POD

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Windshield Side Tube Gusset	PP-STGUSS	4
2.	Windshield Top Former	PP-WSTF-151	2
3.	Splice, 7/8" X 2 1/2"	PP-SPLICE	1
4.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	8
5.	Diamond Gusset	PP-DIAGUS40	1
6.	Rubber Trim, 2"	X1011	1
7.	Windshield Side Tubes	PP-WSST-A	2
8.	Windshield (-1 Tinted)	PP-WSHLD-151	1
		(CLEAR)	
8.	Windshield (-1 Clear)	PP-WSHLD-152 (TINT)	1
9.	1/8" Aluminum Pop Rivet	30APR1/8	189
10.	Belly Pan	PP-BPAN	1
11.	5" "Z" Strip	PP-5Z	2
12.	8" "Z" Strip	PP-8Z	2
13.	Belly Pan Top Channel	PP-TOPC	2
14.	3/16" Shear Nut	AN364-1032A	5
15.	Foam Strip, 60" X 3/16" X 3/8"	PP-FS	2
16.	3/16" Large Wood Washer (Reference)	AN970-3	0
17.	3/16" Thick Washer (Reference)	AN960-10	0
18.	3/16" Bolt (Reference)	AN3-12A	0
19.	Nose Cone Top	PP-NCTOP	1
20.	Nose Cone Mating Strip	PP-NCMS	2
21.	Nose Cone Bottom	PP-NCBOT	1
22.	Decals	PP-DECAL	2
23.	Rubber Grommet	MS35489-17	1
24.	Windshield Support	PP-WSS	1
25.	1/4" Bolt	AN4-31A	1
26.	1/8" Brass Washer	AN960-B4	40
27.	Copper Clecos	#30CLECOS	12
28.	Cleco Pliers	CLECO PLIERS	1
29.	1/4" Thick Washer	SEE SUPER	0
		STRUCTURE	
30.	1/4" Shear Nut	SEE SUPER	0
		STRUCTURE	

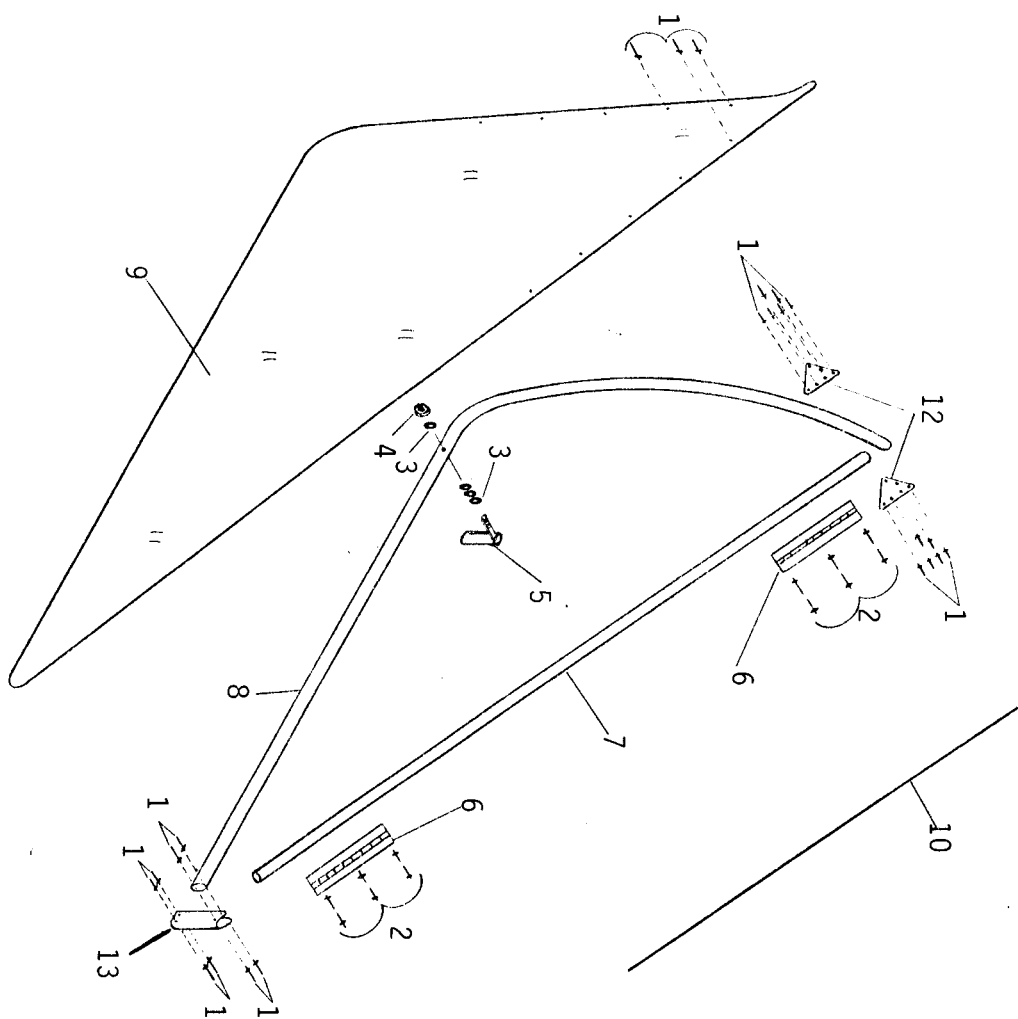


S-12 AIRAILLE DOORS

S-12 AIRAILE DOORS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	48
2.	Piano Hinge, 36"	D-HINGE	1
3.	Door Frame Hinge Tube	D-LE	2
4.	Lexan	D-LEX-ES	2
5.	1/8" Aluminum Pop Rivet	30APR1/8	110
6.	Forward Corner Gusset	D-FS	2
7.	Air Vent	AIR-VENT	2
8.	3/16" Shear Acorn Nut	22NKM02	2
9.	3/8" Thick Washer	AN960-616	4
10.	Door Outer Handle	D-OH	2
11.	3/16" Bolt	AN3-6A	2
12.	Door Handle Gusset	D-DHG	4
13.	Spacer Bushing, 1/2" X .058 X 1/2"	SB-1/2X1/2	4
14.	Inner Door Handle, Type A	D-IDH-A	2
15.	Door Frame, LH	D-TE-LH	1
15.	Door Frame, RH	D-TE-RH	1
16.	Upper Corner Gusset	D-CG	4
17.	Foam Strip, 3/16" X 3/8"	D-FS-3/16"	1
18.	Rub Block	D-RB	2
19.	Stainless Steel Hinge Pin, 1/8" X 36"	D-HP	1
20.	Door Up Catch Body	D-UPB	2
21.	Door Up Catch Pin	D-UPPIN	2
22.	Screws	#8X1SSCR	4
23.	Spring	YY-43	2
24.	Upper Door Handle	D-UDH	2
25.	3/16" Truss Head Screw	AN526-C1032R12	4
26.	Door Bumpers	9K13-DRBUMP	6

S-12 HALF DOOR

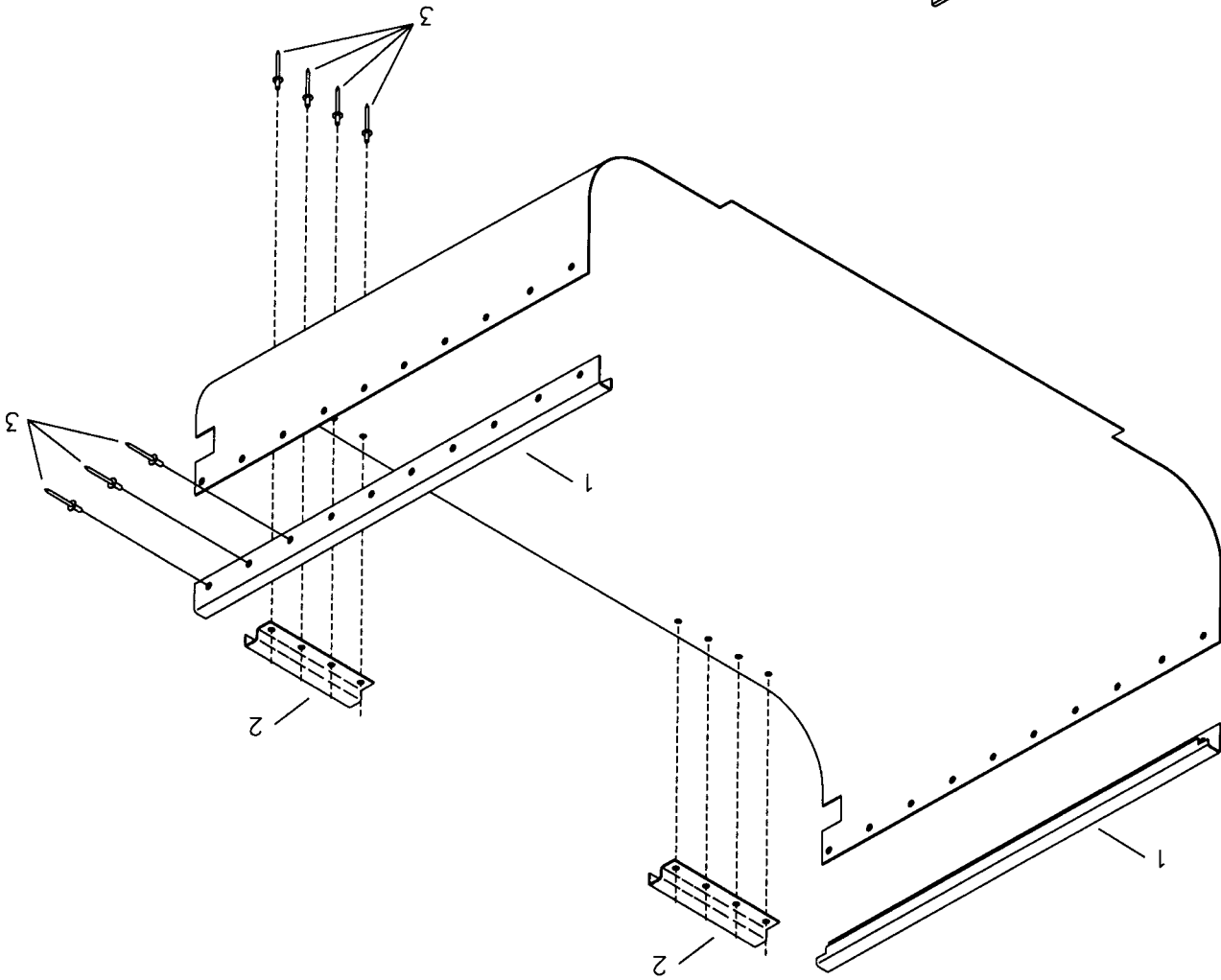


S-12 AIRAILE HALF DOOR

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/8" Aluminum Pop Rivet	30APR1/8	88
2.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	24
3.	3/16" Plastic Washer	PW-3	8
4.	3/16" Shear Acorn Nut	22NKM02	2
5.	Door Catch	D-FC	2
6.	Half Door Hinge, 36"	HD-HINGE	1
7.	Half Door Hinge Tube	HD-HT	2
8.	Half Door Lower Frame Tube, LH	HD-LFT-L	1
8.	Half Door Lower Frame Tube, RH	HD-LFT-R	1
9.	Half Door Lexan	HD-LEX	2
10.	Half Door Hinge Pin, 36"	HD-HP	1
11.	Foam Strip, 3/16" X 3/8"	HD-FS	1
12.	Door Gusset	PP-STGUS	4
13.	Forward Corner Gusset	D-FS	2

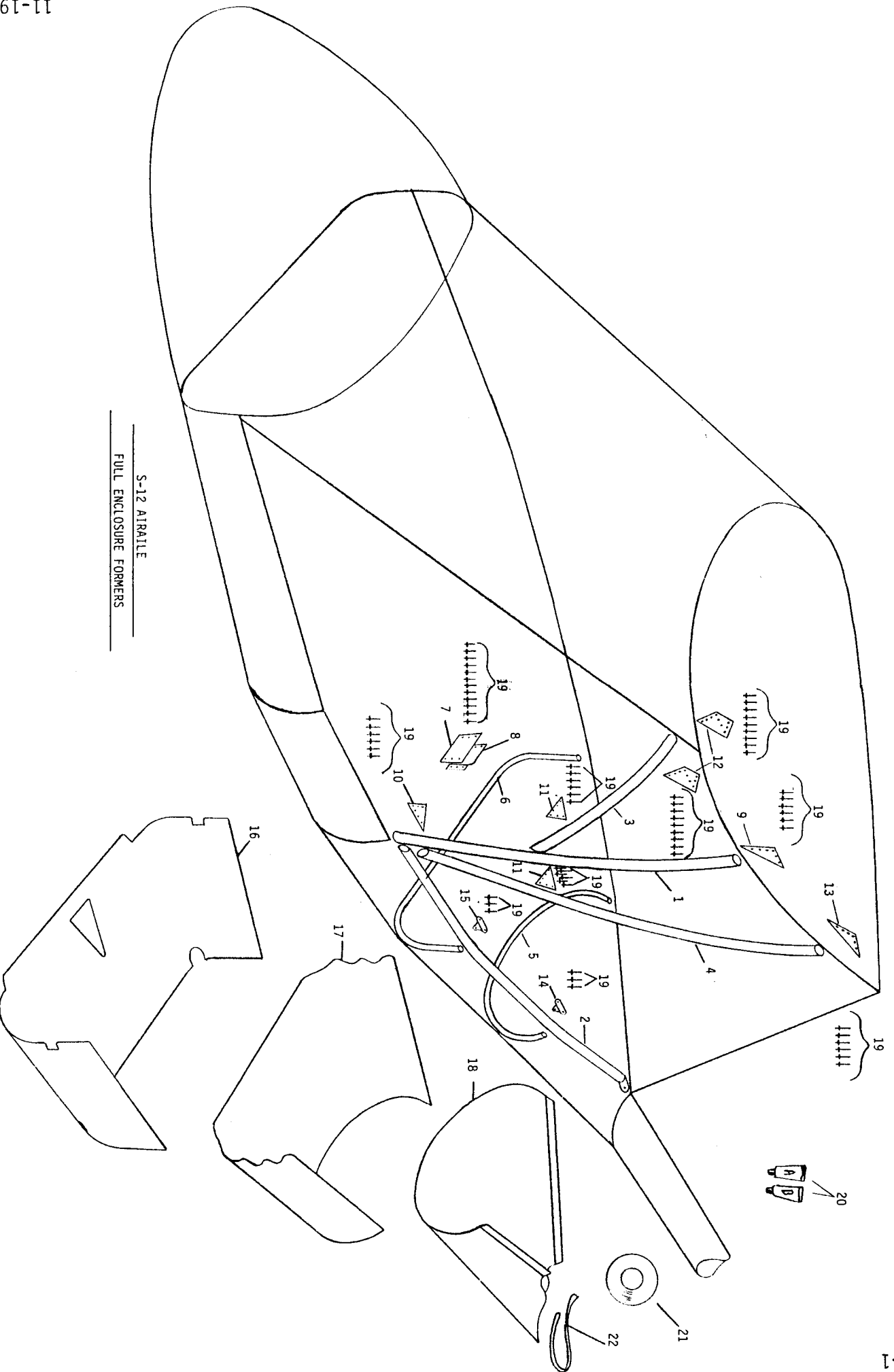
RMS S-12 AIRAILE #2 BELLY PAN ASSEMBLY

MD1906



S-12 AIRAILE #2 BELLY PAN

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	#2 Belly Pan Top Channel	PP-TOPC2	2
2.	8" "Z" Strip	PP-8Z	2
3.	1/8" Aluminum Pop Rivet (1/8" Grip)	30APR1/8	30
4.	#2 Belly pan	PP-BPAN2	1



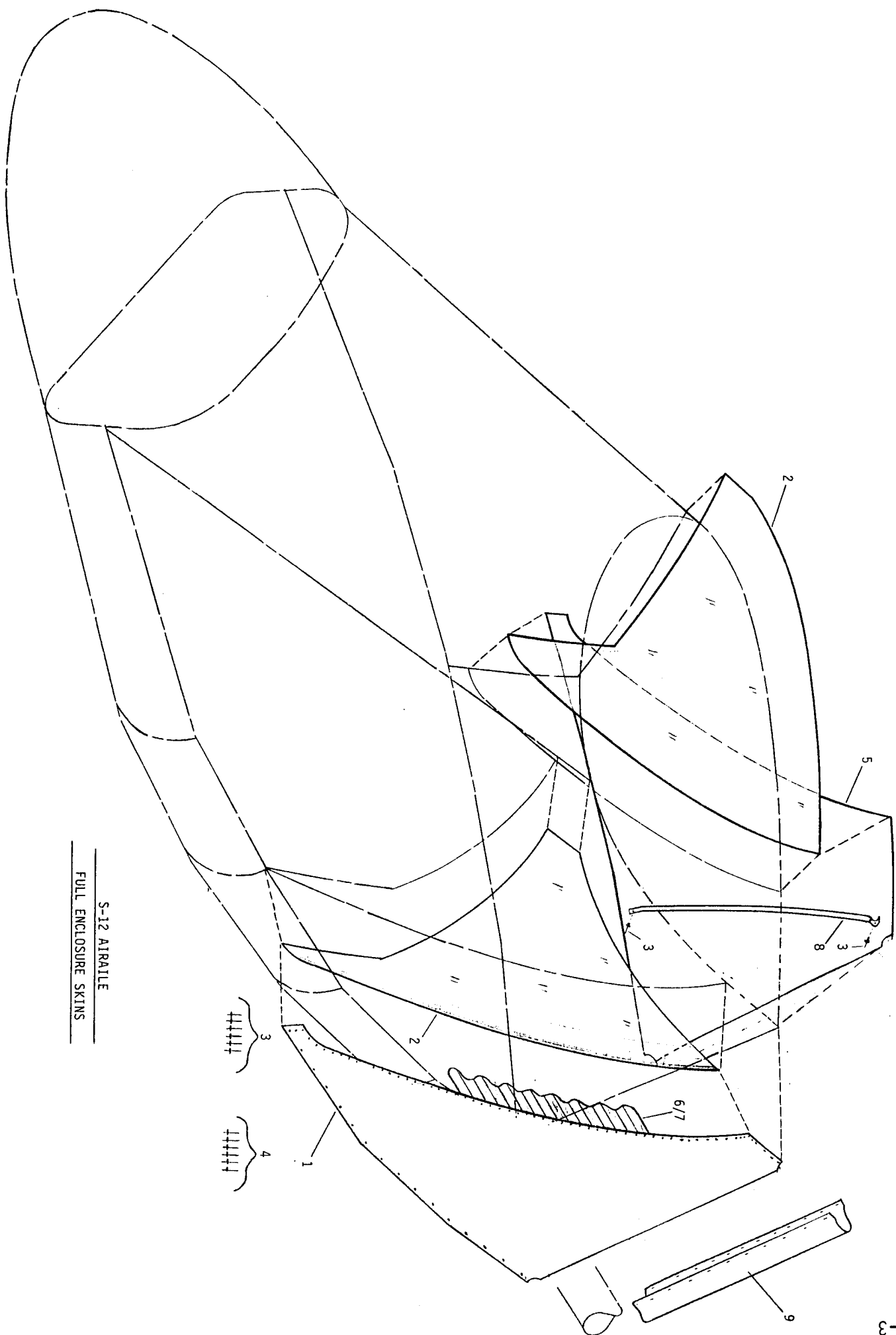
S-12 AIRRALE

FULL ENCLOSURE FORMERS

S-12 AIRAILE FULL ENCLOSURE FORMERS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Side Former	FE-SF	2
2.	Bottom Former	FE-BF	2
3.	Door Former	FE-DF	2
4.	Window Former	FE-WF	2
5.	1/2" Belly Pan Former	FE-1/2BPF	1
6.	5/8" Belly Pan Former	FE-5/8BPF	1
7.	Side Former Cabaine Gusset, Forward	FE-SF-CAB-GUS-FWD	2
8.	Side Former Cabaine Gusset, AFT, LH	FE-SF-CAB-GUS-AFT-L	1
8.	Side Former Cabaine Gusset, AFT, RH	FE-SF-CAB-GUS-AFT-	1
9.	Side Former Top Former Gusset	FE-SF-TF-GUS	2
10.	Side Former Bottom Former Gusset	FE-SF-BF-GUS	2
11.	Side Former Door Former Gusset*	FE-SF-DF-GUS	4
12.	Door Former Side Tube Gusset	FE-DF-ST-GUS	4
13.	Window Former Top Former Gusset	FE-WF-TF-GUS	2
14.	1/4" Joggle Gusset	FE-1/4JOG-GUS	2
15.	1/8" Joggle Gusset	FE-1/8JOG-GUS	2
16.	#3 Belly Pan	FE-BPAN3	1
17.	#4 Belly Pan	FE-BPAN4	1
18.	#5 Belly Pan	FE-BPAN5	1
19.	1/8" Aluminum Pop Rivet	30APR1/8	152
20.	4 Minute Epoxy	EPOXY	1
21.	1/4" Seamstick Tape		1
22.	Rubber Trim, 18"	X1011-18	1

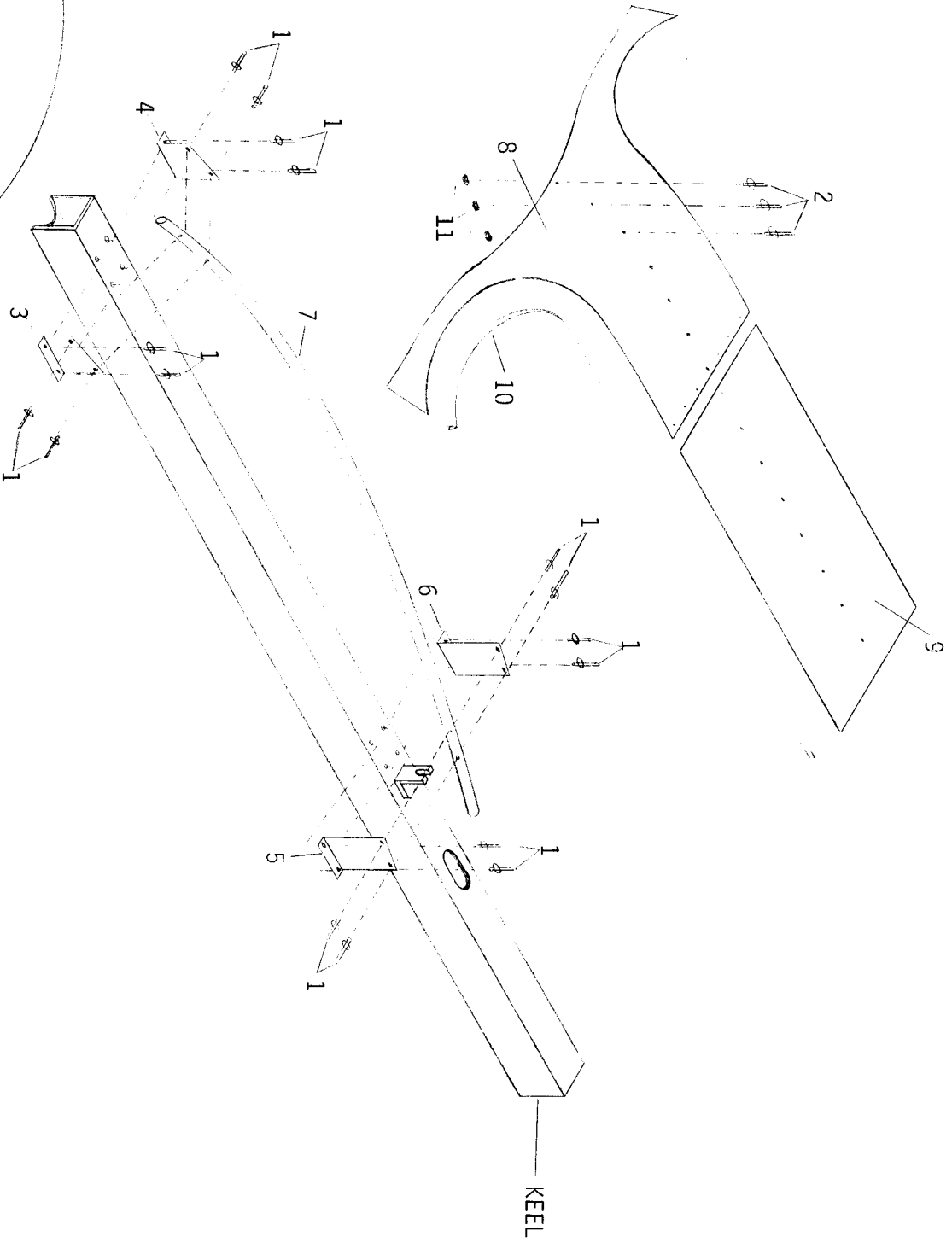
*Use PP-STGUS from PARTIAL POD
PP-STGUS is replaced by FE-DF-ST-GUS



S-12 AIRAILE
FULL ENCLOSURE SKINS

S-12 AIRAILE FULL ENCLOSURE SKINS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Upper Rear Panel, LH	FE-UPR-LH	1
2.	Window Lexan	FE-WLEXAN	2
3.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	4
4.	1/8" Aluminum Pop Rivet	30APR1/8	180
5.	Upper Rear Panel, RH	FE-URP-RH	1
6.	Upper Panel Soundproofing, LH	FE-UPSP-LH	1
7.	Upper Panel Soundproofing, RH	FE-UPSP-RH	1
8.	Upper Panel Stabilizer Tube	FE-UPST	2
9.	AFT Closure	FE-AC	1



S-12 AIRALE CENTER COVER

WINDSHIELD

KEEL

S-12 AIRAILE CENTER COVER

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	16
2.	1/8" Aluminum Pop Rivet	30APR1/8	51
3.	Forward Angle, LH	CC-FA-LH	1
4.	Forward Angle, RH	CC-FA-RH	1
5.	AFT Angle, LH	CC-AA-LH	1
6.	AFT Angle, RH	CC-AA-RH	1
7.	Center Rib	CC-CR	1
8.	Forward Center Cover	CC-CC-FWD	1
9.	AFT Center Cover	CC-CC-AFT	1
10.	Rubber Trim, ft	X1011	10
11.	Small Brass Washer	IP-BW-AN960-B4	24

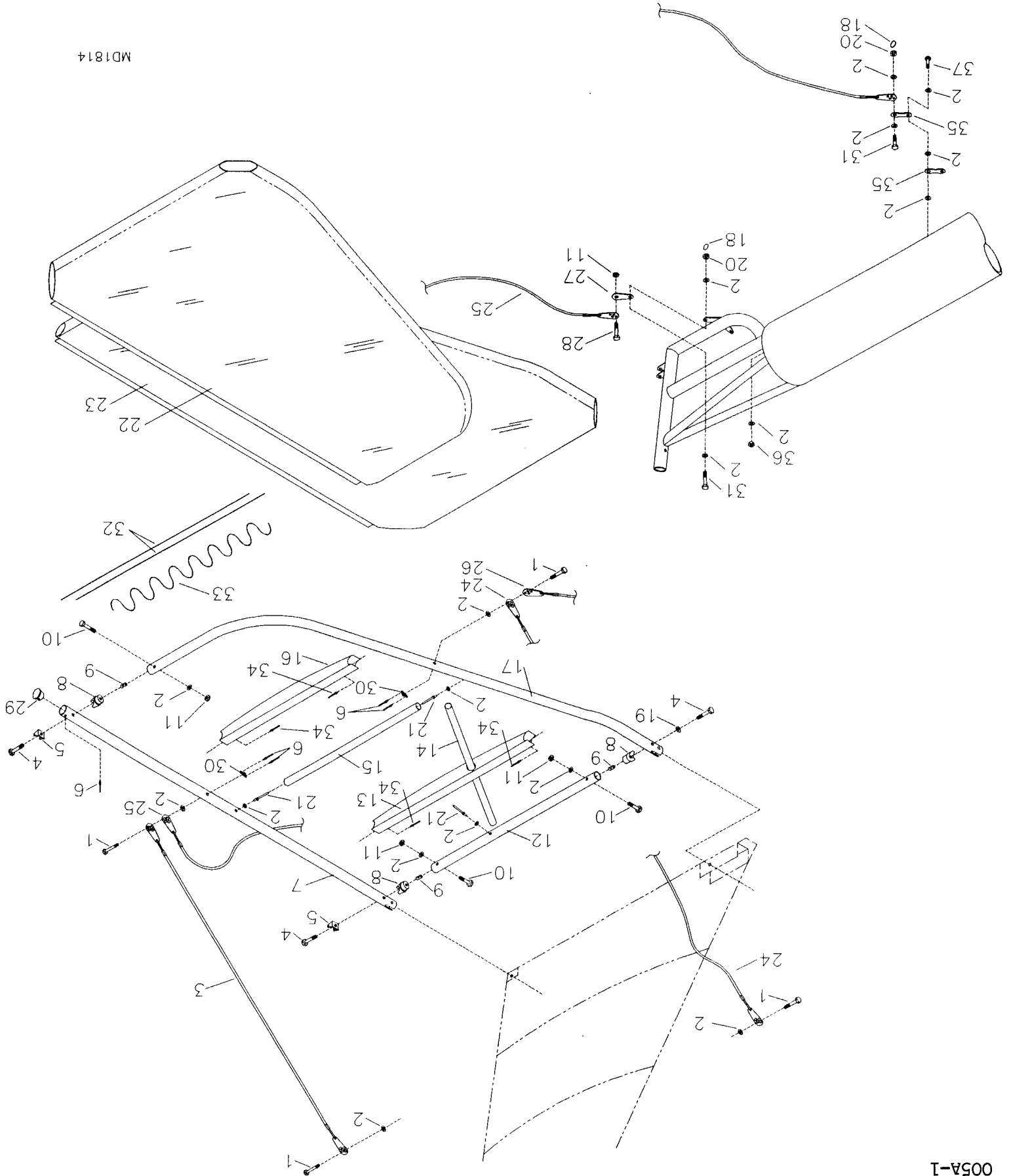
S-12 AIRAILE VERTICAL STABILIZER

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Vertical Stabilizer Skin	TG-VS-15	1
2.	1/8" Lacing Rope	TG-ROPE	1
3.	3/16" Bolt	AN3-13A	2
4.	1" End Cap	1 CAP	2
5.	3/32" Aluminum Pop Rivet	40APR1/8	6
6.	Stainless Steel Hinge	W-HB	1
7.	1/4" Bolt	AN4-15A	5
8.	1" Compression Fitting	TC-1	1
9.	Insert Nut	I-NUT	1
10.	3/16" Thin Washer	AN960-10L	3
11.	3/16" Shear Nut	AN364-1032A	4
12.	3/16" Nut Plate	K-1000-3	2
13.	1" Saddle	1-NS	2
14.	3/16" Bolt	AN3-14A	1
15.	Horizontal Stabilizer Attach Bracket	S2-SAB	5
16.	Vertical Stabilizer Spreader Tube	TG-VSST-15	1
17.	Vertical Stabilizer 1/2" Internal Brace(19 1/8")**	TG-IB-V	1
18.	3/16" Stainless Steel Pop Rivet	12SSPR1/4	7
19.	Long Wing Channel	W-WCL	1
20.	Vertical Stabilizer Spar	TG-VSS	1
21.	Vertical Stabilizer Leading Edge	TG-VSLE	1
22.	Horizontal Stabilizer Boom Strap	TG-HSBS	2
23.	Lacing Wires, 36" X 1/8"	TG-LW	2
24.	Upper Rib	KPVS0009	1
25.	Lower Rib	KPVS0010	1
26.	Lower Vert. Stabilizer 1/2 Internal Brace, 12 7/8**	TG-IB-VL	1
27.	3/16" Aluminum Pop Rivet	12APR1/8	3
28.	Vert. Stab. 1/2 Int. Brace Tube FWD Vertical, 26**	TG-IB-FV	1
29.	3/16" Bolt	AN3-16A	1
30.	3/16" Thick Washer	AN960-10	4
31.	1/4" Thin Washer	AN960-416L	2
32.	1/4" Shear Nut	AN364-428A	6
33.	1/4" Bolt	AN4-16A	2
34.	1/4" Thick Washer	AN960-416	4
35.	1/8" Aluminum Pop Rivet	30APR1/8	4

**Builder fabricates from raw stock.

RMS S-12 AIRAILE HORIZONTAL STABILIZER ASSEMBLY

MD1814



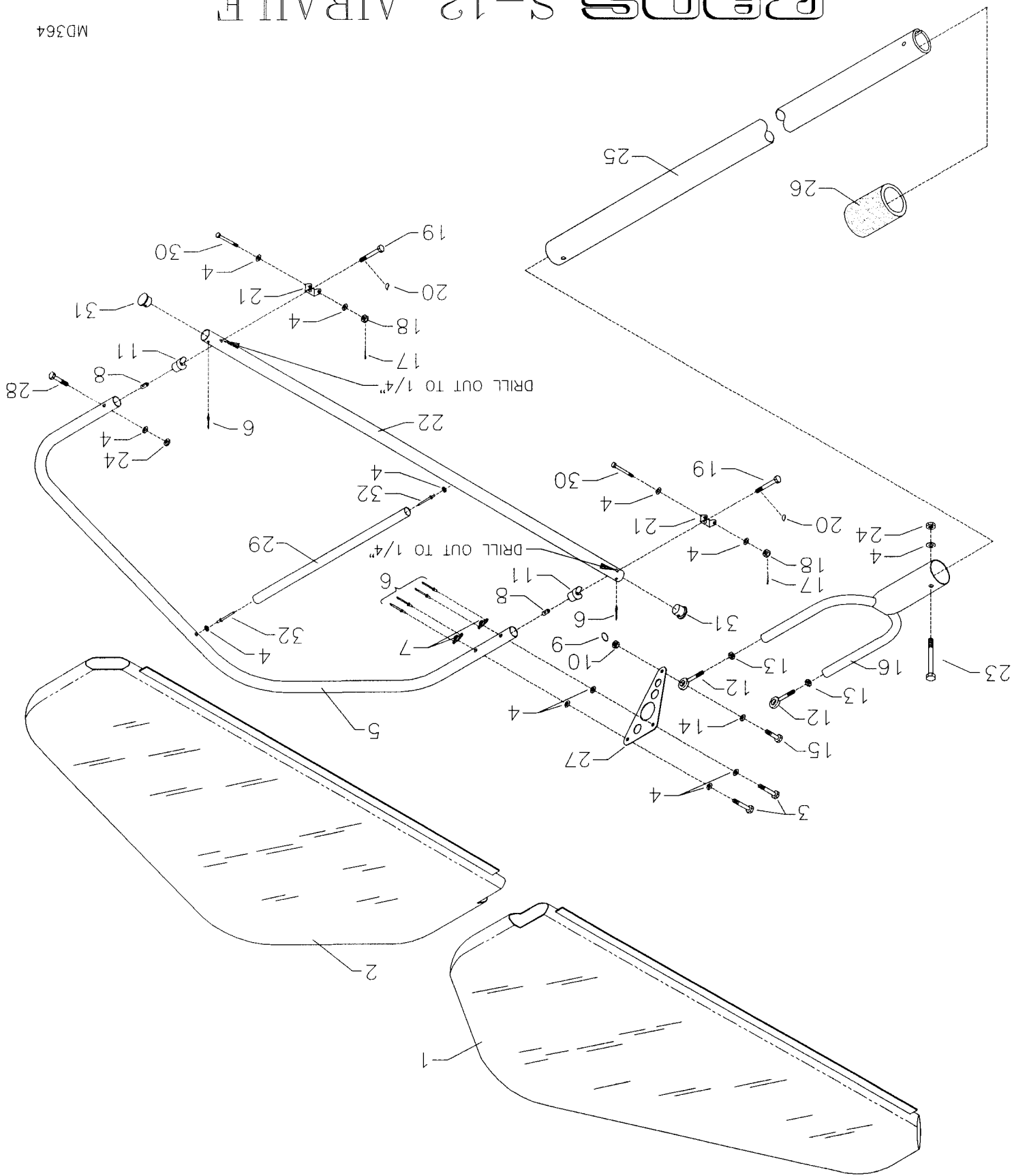
S-12 AIRAILE HORIZONTAL STABILIZER

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Bolt	AN3-14A	6
2.	3/16" Thick Washer	AN960-10	29
3.	Top AFT Cable	TG-TAC	2
4.	1/4" Bolt	AN4-15A	6
5.	Stainless Steel Hinge	W-HB	4
6.	3/32" Aluminum Pop Rivet	40APR1/8	10
7.	Horizontal Stabilizer Spar	TG-HSS	2
8.	1" Compression Fitting	TC-1	6
9.	Insert Nut	I-NUT	6
10.	3/16" Bolt	AN3-13A	6
11.	3/16" Shear Nut	AN364-1032A	8
12.	Horizontal Stabilizer Spreader Tube	TG-HSST-15	2
13.	Inboard Rib, RH	KPHS0005-RH	1
13.	Inboard Rib, LH	KPHS0005-LH	1
14.	Horiz. Stabilizer Diagonal Internal Brace 22 1/4**	TG-IB-D	2
15.	Horizontal Stabilizer 1/2" Internal Brace, 21**	TG-IB-H-15	2
16.	Outer Rib, RH	KPHS0006-RH	1
16.	Outer Rib, LH	KPHS0006-LH	1
17.	Horizontal Stabilizer Leading Edge	TG-HSLE-15	2
18.	Loc Ring	RL 27 1/4	4
19.	1/4" Thick Washer	AN960-416	2
20.	3/16" Castle Nut	AN310-3	4
21.	3/16" Aluminum Pop Rivet	12APR1/8	6
22.	Horizontal Stabilizer Skin, RH	TG-HSSKIN-R-15	1
23.	Horizontal Stabilizer Skin, LH	TG-HSSKIN-L-15	1
24.	Top Forward Cable	TG-TFC-15	2
25.	Lower AFT Cable	TG-LAC	2
26.	Lower Forward Cable	KPHS0009	2
27.	Adjustor Tang	CAB-TANG	2
28.	3/16" Bolt	AN3-4A	2
29.	1" End Cap	1 CAP	2
30.	3/16" Nut Plate	K-1000-3	4
31.	3/16" Bolt	AN3-5	4
32.	Lacing Wires, 36"	TG-LW	4
33.	1/8" Lacing Rope	TG-ROPE	24 ft
34.	1/8" Aluminum Pop Rivets	30APR1/8	8
35.	Hummertang	T12-HT6	2
36.	Tensile Nut	AN365-1032A	1
37.	3/16" Bolt	AN3-7A	1

**Builder fabricates from raw stock.

RRMS S-12 AIRAILE ELEVATOR ASSEMBLY

MD364



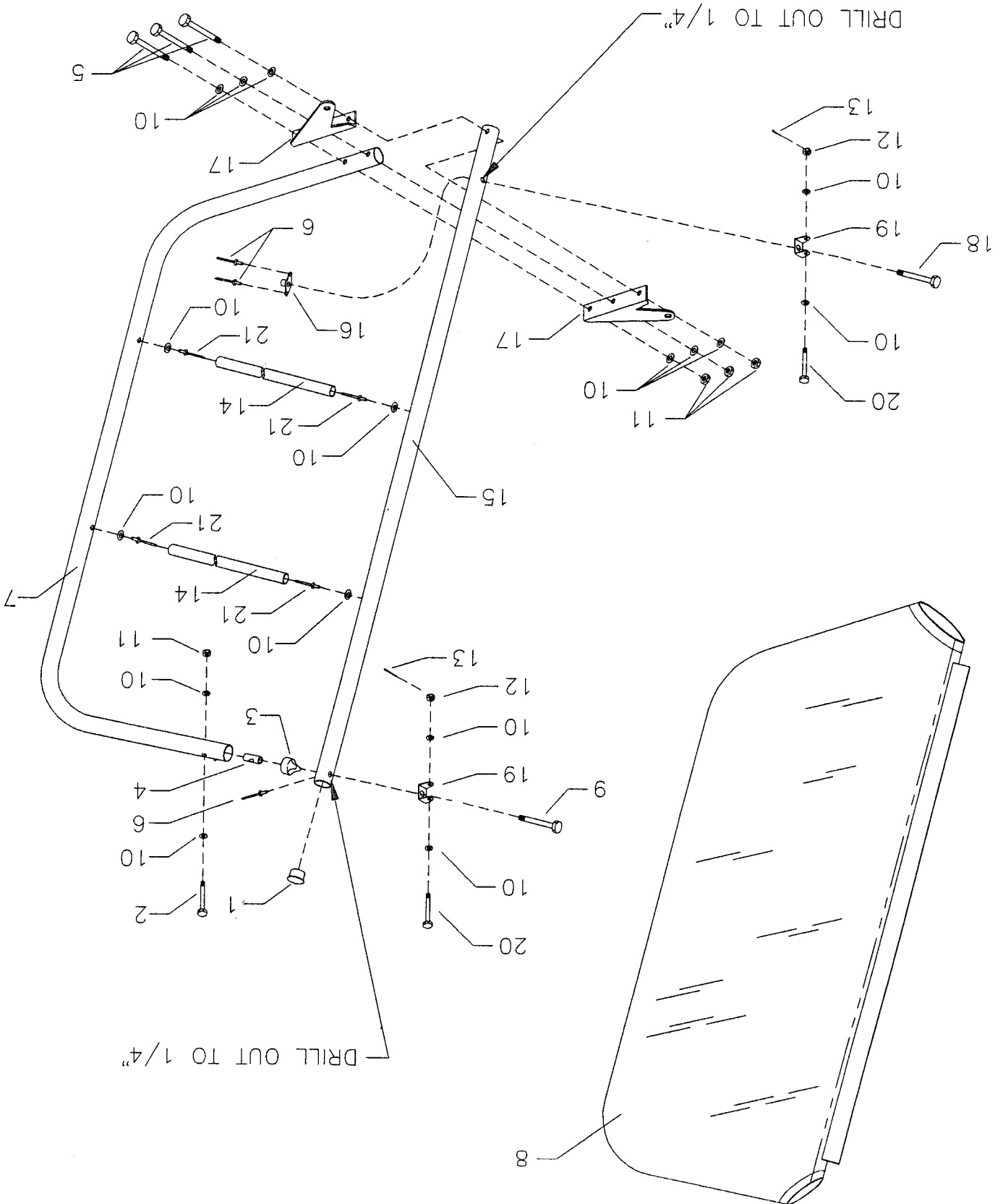
S-12 AIRAILE ELEVATOR

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Elevator Skin, LH	TG-ES-L	1
2.	Elevator Skin, RH	TG-ES-R	1
3.	3/16" Bolt	AN3-14A	4
4.	3/16" Thick Washer	AN960-10	23
5.	Elevator Trailing Edge	TG-ETE	2
6.	3/32" Aluminum Pop Rivet	40APR1/8	12
7.	3/16" Nut Plate	K-1000-3	4
8.	Insert Nut	I-NUT	4
9.	Loc Ring	RL-27 5/16	2
10.	1/4" Castle Nut	AN310-4	2
11.	1" Compression Fitting	TC-1	4
12.	Male Rod End, 1/4" X 1/4"	NM-4	2
13.	1/4" Plain Nut	AN345-416	2
14.	1/4" Plastic Washer	PW-4	2
15.	1/4" Bolt	AN4-7	2
16.	Elevator Yoke	TG-EY	1
17.	Small Cotter Pin	MS24665-134	4
18.	3/16" Castle Nut	AN310-3	4
19.	1/4" Bolt	AN4-15A	4
20.	Loctite Blue	LOCTITE BLUE	0
21.	Stainless Steel Hinge	W-HB	4
22.	Elevator Spar	TG-ESPAR	2
23.	3/16" Bolt	AN3-15A	1
24.	3/16" Shear Nut	AN364-1032A	3
25.	1 1/4" Push Pull Tube	TG-1 1/4PPT-144	1
26.	Foam Rubber Insulator	TG-FRI	1
27.	Elevator Horn	TG-EH-A	2
28.	3/16" Bolt	AN3-13A	2
29.	Elevator 1/2" Internal Brace, 13***	TG-IB-E	2
30.	3/16" Bolt	AN3-15	4
31.	1" End Cap	1 CAP	4
32.	3/16" Aluminum Pop Rivet	12APR1/8	4

**Builder fabricates from raw stock.

RMS S-12 AIRAILE RUDDER ASSEMBLY

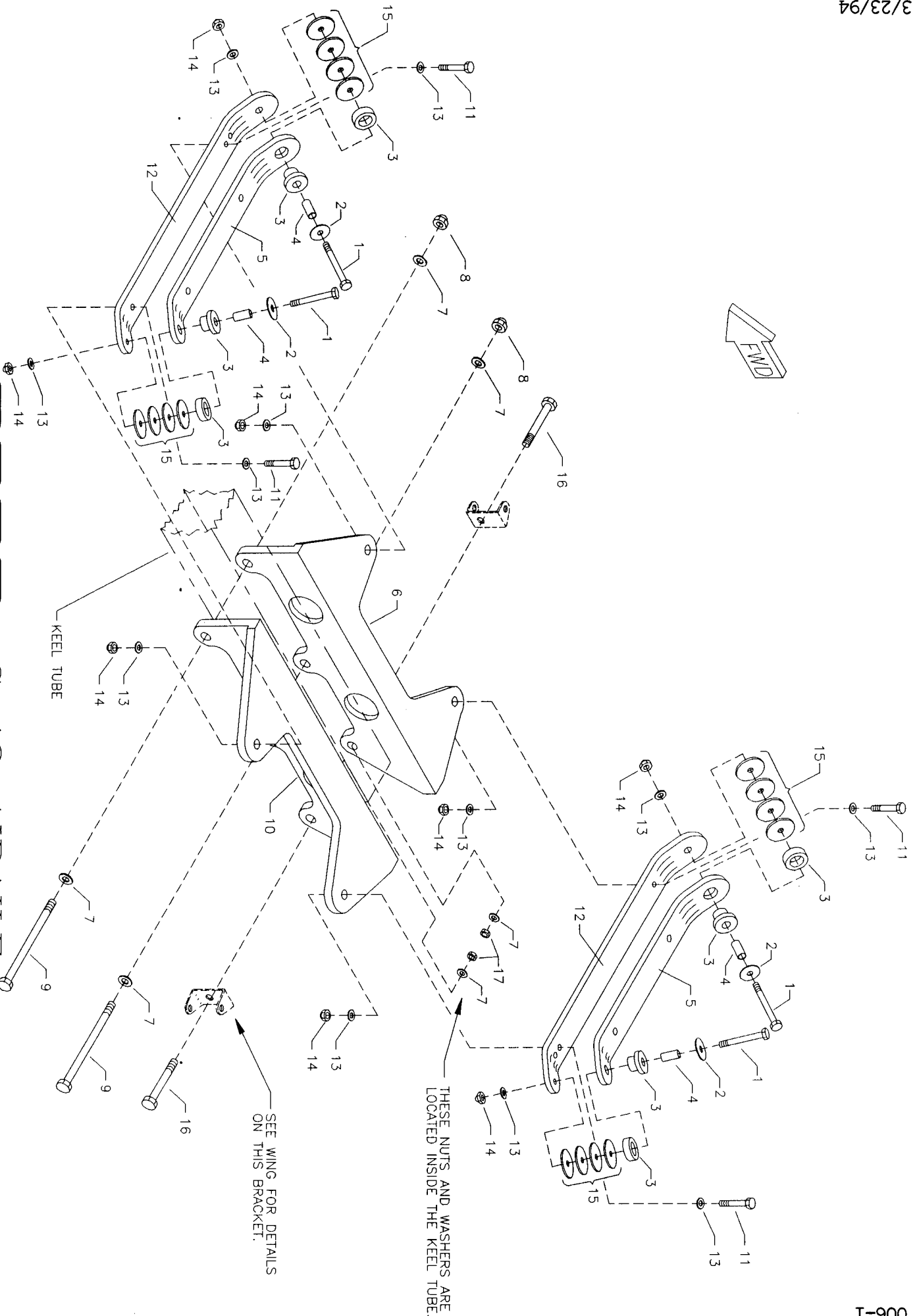
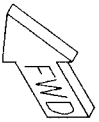
MD366



S-12 AIRAILE RUDDER SYSTEM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1" End Cap	1 CAP	1
2.	3/16" Bolt	AN3-13A	1
3.	1" Compression Fitting	TC-1	1
4.	Insert Nut	I-NUT	1
5.	3/16" Bolt	AN3-15A	3
6.	3/32" Aluminum Pop Rivet	40APR1/8	3
7.	Rudder Trailing Edge	TG-RTE	1
8.	Rudder Skin	TG-RSKIN	1
9.	1/4" Bolt	AN4-15A	1
10.	3/16" Thick Washer	AN960-10	16
11.	3/16" Shear Nut	AN364-1032A	4
12.	3/16" Castle Nut	AN310-3	2
13.	Small Cotter Pin	MS24665-134	2
14.	Rudder 1/2" Internal Brace, 15"***	TG-IB-R	2
15.	Rudder Spar	TG-RS	1
16.	1/4" Nut Plate	MS21047-04	1
17.	Rudder Horn, LH	TG-RHL	1
17.	Rudder Horn, RH	TG-RHR	1
18.	1/4" Bolt	AN4-13A	1
19.	Stainless Steel Hinge	W-HB	2
20.	3/16" Bolt	AN3-15	2
21.	3/16" Aluminum Pop Rivet	12APR1/8	4

***Builder fabricates from raw stock.



RR-12 AIRFRAME FOCALIZED ENGINE MOUNT

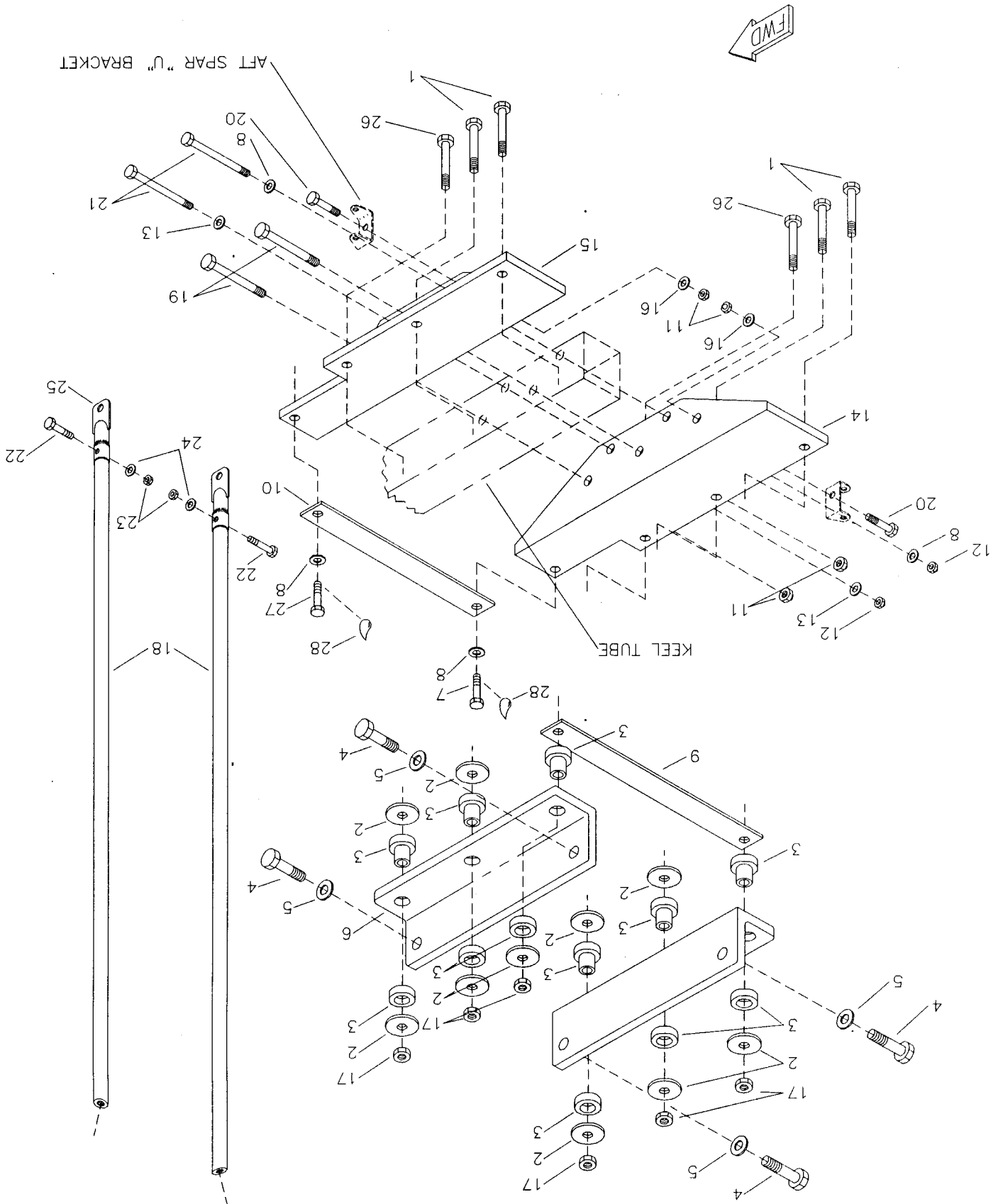
MD442

S-12 AIRAILE ENGINE MOUNT FOR 503/582

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Bolt	AN4-25A	4
2.	1/4" Wood Washer	AN970-4	4
3.	Barry Mount	22001-12	4
4.	Spacer Bushing, 1 1/8" X 3/8" X .058	EG-B3/8X1 1/8	4
5.	Focal Mount Plate	EG-FOMP	2
6.	Engine Mount Angle, RH	KPPW0027-RH	1
7.	5/16" Thin Washer	AN960C-516L	7
8.	5/16" Shear Nut	AN364-524A	2
9.	5/16" Bolt	AN5-31A	2
10.	Engine Mount Angle, LH	KPPW0027-LH	1
11.	1/4" Bolt	AN4-12A	4
12.	Lower Focal Mount Plate	EG-LFMP	2
13.	1/4" Thick Washer	AN960-416	12
14.	1/4" Tensile Nut	AN365-428A	8
15.	1/8" Aluminum Washer	EG-AW	16
16.	5/16" Bolt	AN5-10A	2
17.	5/16" Tensile Nut	AN365-524A	2

RMS S-12 AIRALE 912 ENGINE MOUNT

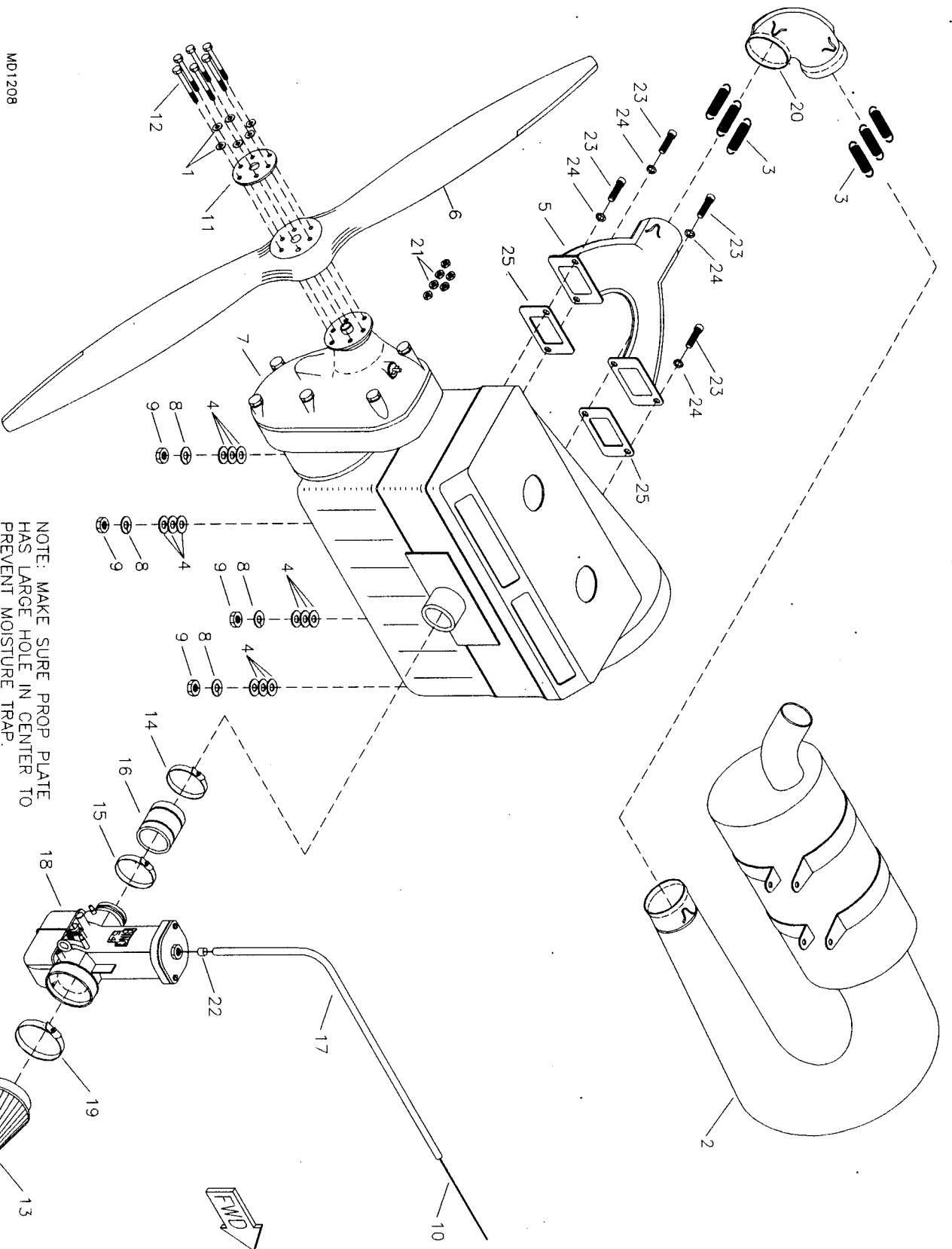
MD1049



S-12 AIRAILE 912 ENGINE MOUNT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/8" Bolt	AN6-23A	4
2.	1/8" Aluminum Washer	EG-AW	10
3.	Barry Mount	22001-12	6
4.	10MM Bolt	M10 X 35	4
5.	10 MM Loc Washer	945-753	4
6.	912 Mount Angle	EG-912-MT	2
7.	1/4" Bolt	AN4-6A	1
8.	1/4" Thin Washer	AN960-416L	4
9.	AFT Mount Strap	EG-912-AMS	1
10.	Forward Mount Strap	EG-912-FMS	1
11.	5/16" Tensile Nut	AN365-524A	4
12.	1/4" Shear Nut	AN364-428A	2
13.	1/4" Thick Washer	AN960-416	2
14.	912 Mount Angle, LH	EG-912-LHMA	1
15.	912 Mount Angle, RH	EG-912-RHMA	1
16.	5/16" Thin Washer	AN960-516L	2
17.	3/8" Tensile Nut	AN363-624A	6
18.	Torsion Strut	EG-912-TS	2
19.	5/16" Bolt	AN5-31A	2
20.	5/16" Bolt	AN5-10A	2
21.	1/4" Bolt	AN4-33A	2
22.	3/16" Bolt	AN3-10A	2
23.	3/16" Shear Nut	AN364-1032A	2
24.	3/16" Thin Washer	AN960-10L	2
25.	Torsion Strut End Fitting	EG-912-TSFF	2
26.	Low Profile Bolt	AN6-23ALP	2
27.	1/4" Bolt*	AN4-10A	1

*Engine ground strap goes here

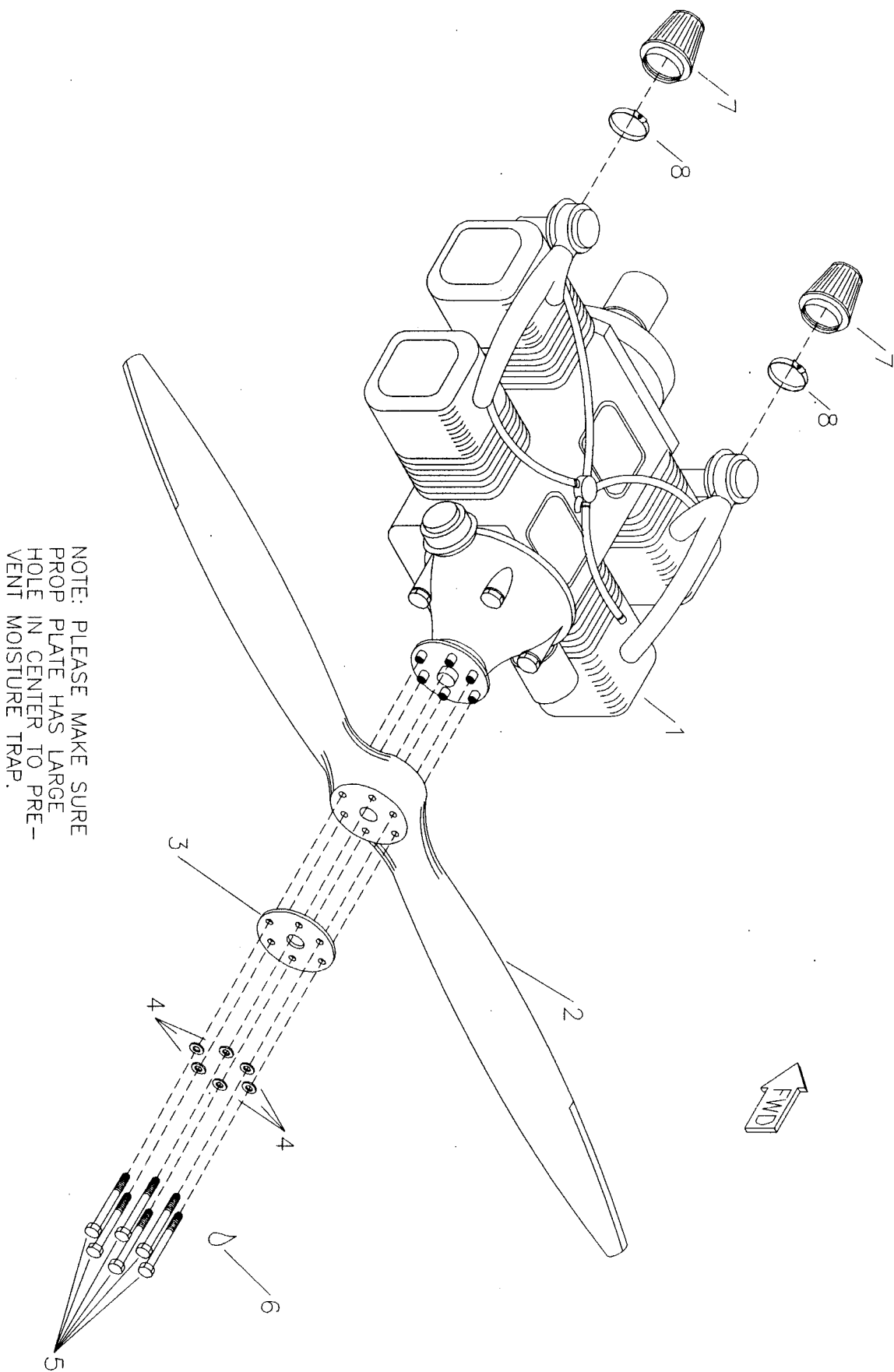


MD1208

Pratt & Whitney S-12 AIRAILLE
503 ENGINE/PROP/MUFFLER

S-12 AIRAILE ENGINE (ROTAX 503)

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Thick Washer	AN960-416	6
2.	Muffler	EG-MUFF	1
3.	Muffler Springs	EG-MUFF-SPRINGS-50	6
4.	7/16" Washer	AN960-716	12
5.	Exhaust Manifold	EG-ME	1
6.	Propeller	EG-PROP	1
7.	Rotax 503 Engine	EG-EG-503	1
8.	Loc Washer, Comes With Engine	EG-WASHER	0
9.	Nut	EG-NUT	0
10.	Throttle Cable, 503SC	EG-CAB-12	12 ft
10.	Throttle Cable, 12', 503DC	EG-CAB-12	2
11.	Prop Plate, Comes With Engine	EG-PROP-PLATE	0
12.	1/4" Bolt (STD)(-6 9" Spinner)	AN4-32A	6
13.	Air Filter, K & N, 503SC	EG-AF	1
13.	Air Filter, K & N, 503DC	EG-AF	2
14.	Carb Clamp, Comes With Engine	EG-CARB-CLAMP	0
15.	Carb Clamp, Comes With Engine	EG-CARB-CLAMP	0
16.	Carb Boot, Comes With Engine	EG-CARB-BOOT	0
17.	Cable Housing, 503SC	EG-T-CAB-H9	9 ft
17.	Cable Housing, 9', 503DC	EG-T-CAB-H9	2
18.	Bing Carburetor, Comes With Engine	EG-CARB	0
19.	Air Filter Clamp, Comes With Filter	EG-AF-CLAMP	0
20.	Muffler Elbow	EG-MUFF-ELBOW	1
21.	1/4" Tensile Nut	AN365-428A	6
22.	Cable Ferrule Cap, 503SC	ENDCAP-12000	1
22.	Cable Ferrule Cap, 503DC	ENDCAP-12000	2
23.	10MM Shoulder Screw, Comes With Engine	EG-SC-10MM	4
24.	10MM Loc Washer, Comes With Engine	EG-LOC-10MM	4
25.	Exhaust Gaskets, Comes With Engine	EG-EX-G	2



PRATT & WHITNEY S-12 AIRAILE 912 ENGINE

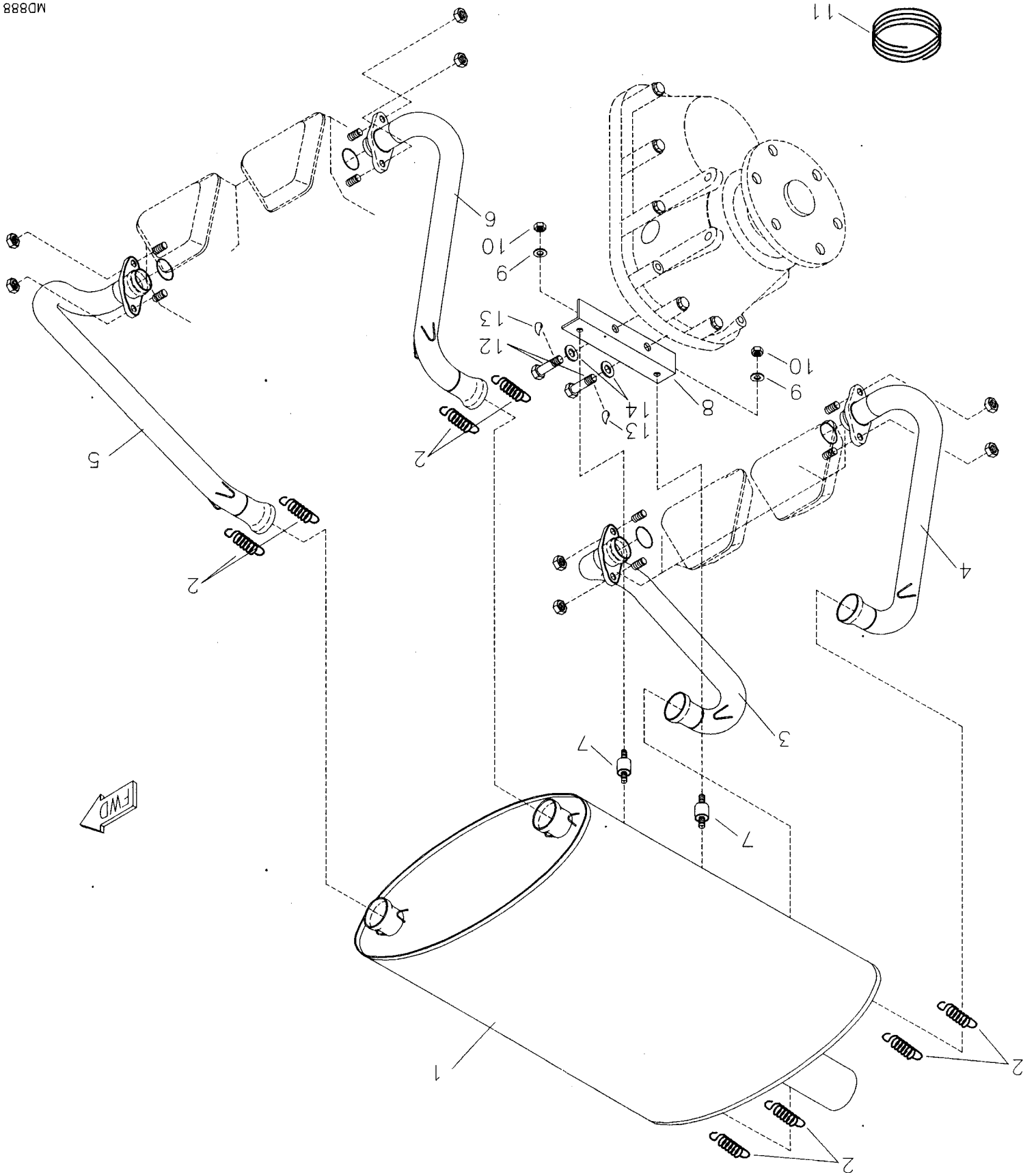
MD121

S-12 AIRAILE 912 ENGINE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Rotax 912 Engine	EG-EG-912	1
2.	Tennessee Propeller, 66", LH	EG-PROP	1
3.	Crush Plate, Comes With Gauge	EG-CRUSH-PLATE	1
4.	3/8" Thick Washer	AN960-616	6
5.	8 MM Bolt	80MM	6
6.	Loctite Blue	LOCTITE BLUE	1
7.	Air Filter	EGCS-AF-912	2
8.	Air Filter Clamp	EG-AF-CLAMP	2

RRMS S-12 AIRAILE 912 MUFFLER ASSEMBLY

MD888



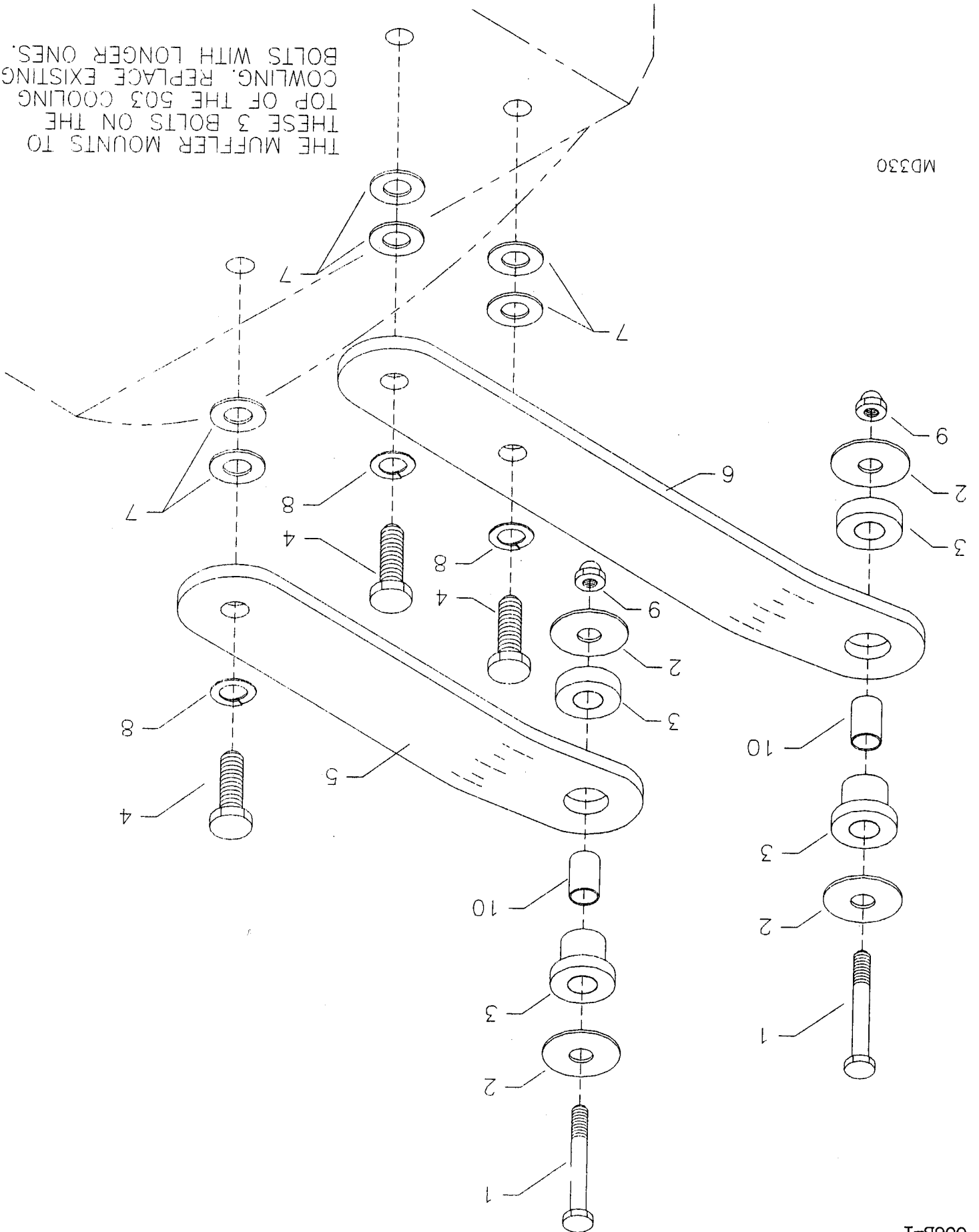
S-12 AIRAILE 912 MUFFLER

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	912 Muffler, S-12	EG12-912-MUF	1
2.	Muffler Springs	938-795	8
3.	S-12 Forward Manifold, LH	EG12-912-FML	1
4.	S-12 AFT Manifold, LH	EG12-912-AML	1
5.	S-12 Forward Manifold, RH	EG12-912-FMR	1
6.	S-12 AFT Manifold, RH	EG12-912-AMR	1
7.	Rubber Isolator	EG-RI	2
8.	Muffler Mount Angle	KPEX0010	1
9.	1/4" Loc Washer	AN935-416L	2
10.	1/4" Coarse Thread Nut	EG-1/4NC	2
11.	Safety Wire, 48"	SAFETY WIRE	1
12.	6MM Bolt	6MMX16MM BOLT	2
13.	Loctite Blue	LOC-TITE BLUE	0
14.	1/4" Thick Washer	AN960-416	2

RMS S-12 AIRALE 503 MUFFLER MOUNT

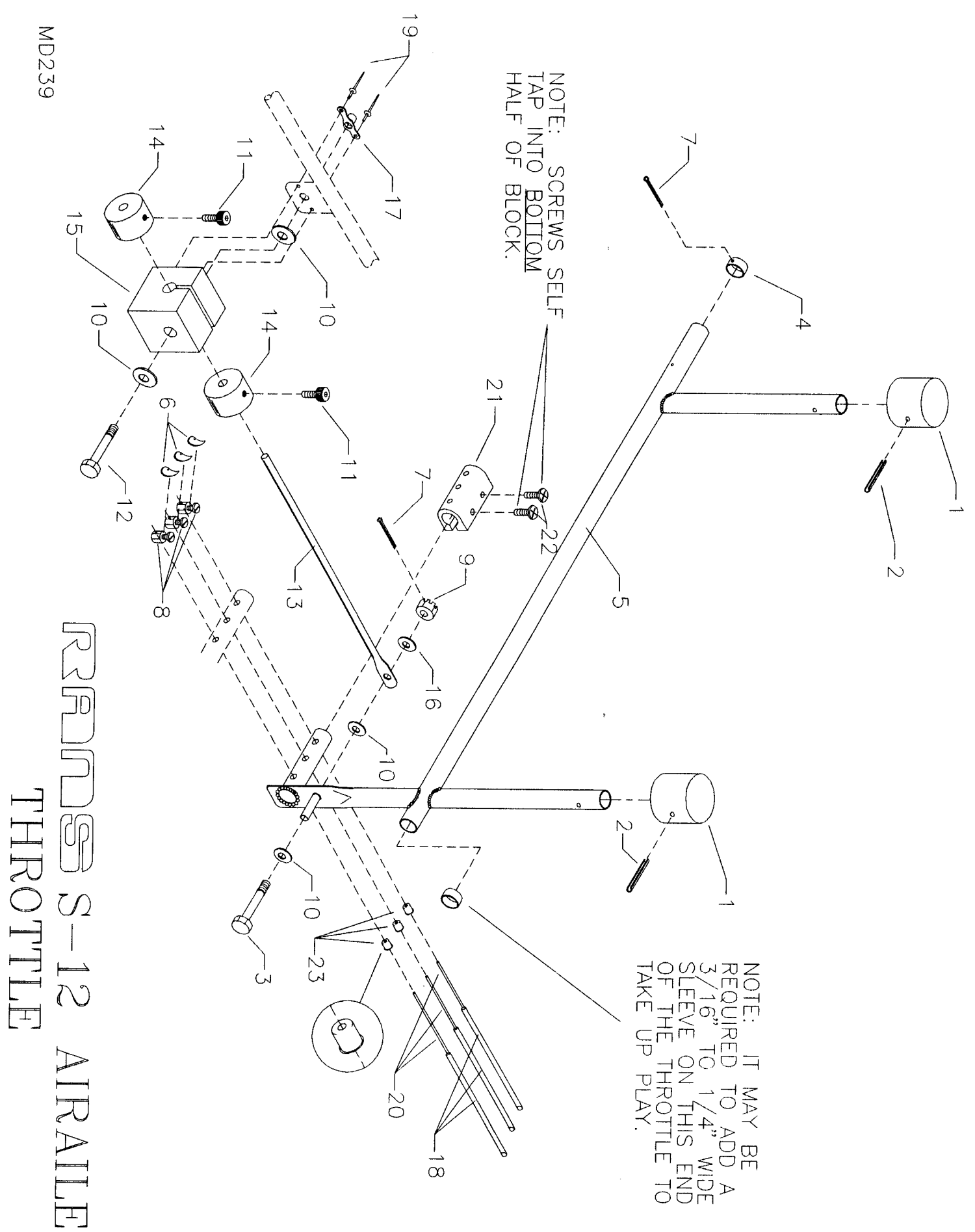
MD330

THE MUFFLER MOUNTS TO
TOP OF THE 503 COOLING
COWLING. REPLACE EXISTING
BOLTS WITH LONGER ONES.



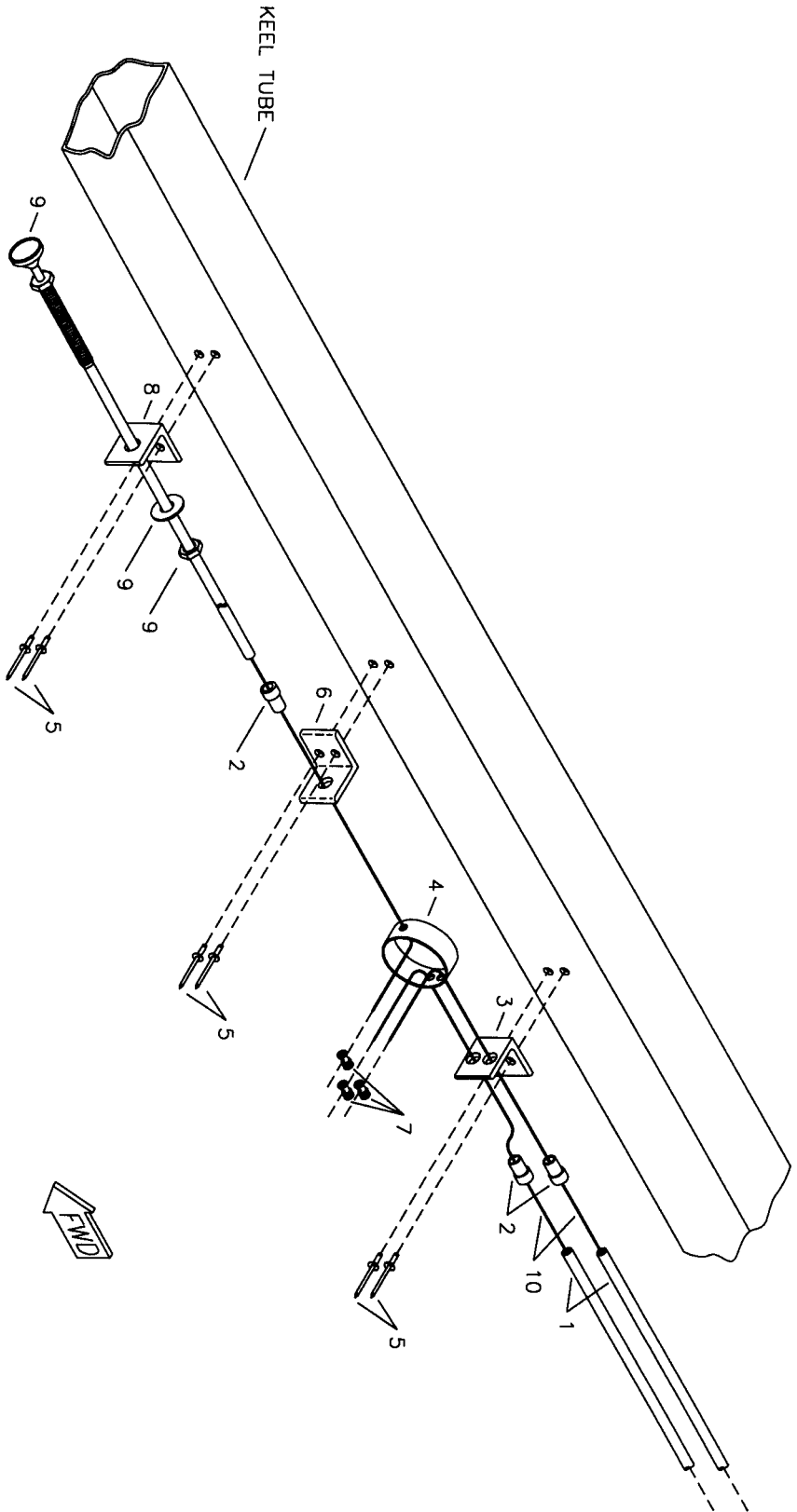
S-12 AIRAILE 503 MUFFLER MOUNT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Bolt	AN4-20A	2
2.	1/8" Aluminum Washer	EG-AW	4
3.	Barry Mount	22001-12	2
4.	M8 X 30 MM Bolt	M8X30 BOLT	3
5.	FWD Mount Plate	EG-FMP	1
6.	AFT Mount Plate	EG-AMP	1
7.	5/16" Thick Washer	AN960C-516	6
8.	5/16" Loc Washer	AN935-516	3
9.	1/4" Shear Nut	AN364-428A	2
10.	Spacer Bushing, 1 1/8" X 3/8 X .058	EG-B3/8X1 1/8	2



S-12 AIRAILE 503, 582 & 912 THROTTLE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Throttle Knob	T-KNOB	2
2.	1/8" Roll Pin, 1"	20032446	2
3.	3/16" Bolt	AN3-12	1
4.	Stop Ring, 5/8" X .058 X 1/2"	T-SR-5/8	1
5.	Throttle Lever	T-TL	1
6.	Loctite Blue	LOCTITE BLUE	1
7.	Small Cotter Pin	MS24665-134	2
8.	Wire Stop/Screw, 503SC	2360	1
8.	Wire Stop/Screw, 503DC	2360	2
8.	Wire Stop/Screw, 582	2360	3
8.	Wire Stop/Screw, 912	2360	2
9.	3/16" Castle Nut	AN310-3	1
10.	3/16" Thick Washer	AN960-10	4
11.	Set Screw	T-SC	2
12.	3/16" Bolt	AN3-14A	1
13.	Friction Rod	T-FR	1
14.	Throttle Stop	T-STOP	2
15.	Friction Block	T-FB	1
16.	3/16" Thin Washer	AN960-10L	3
17.	3/16" Nut Plate	K-1000-3	1
18.	Throttle Cable Housing, 503SC	T-912-CAB-H	125 in
18.	Throttle Cable Housing, 125", 503DC	T-912-CAB-H	2
18.	Throttle Cable Housing, 125", 582	T-912-CAB-H	3
18.	Throttle Cable Housing, 125", 912	T-912-CAB-H	2
19.	3/32" Aluminum Pop Rivet	40APR1/8	2
20.	Throttle Cable, 503SC	T-912-CAB	130 in
20.	Throttle Cable, 130", 503DC	T-912-CAB	2
20.	Throttle Cable, 130", 582	T-912-CAB	3
20.	Throttle Cable, 130", 912	T-912-CAB	2
21.	Throttle Retension Block	T-RB	1
22.	Machine Screws	MS35206-218	2
23.	Cable Ferrule Cap, 503SC	ENDCAP-12000	1
23.	Cable Ferrule Cap, 503DC	ENDCAP-12000	2
23.	Cable Ferrule Cap, 582	ENDCAP-12000	3
23.	Cable Ferrule Cap, 912	ENDCAP-12000	3

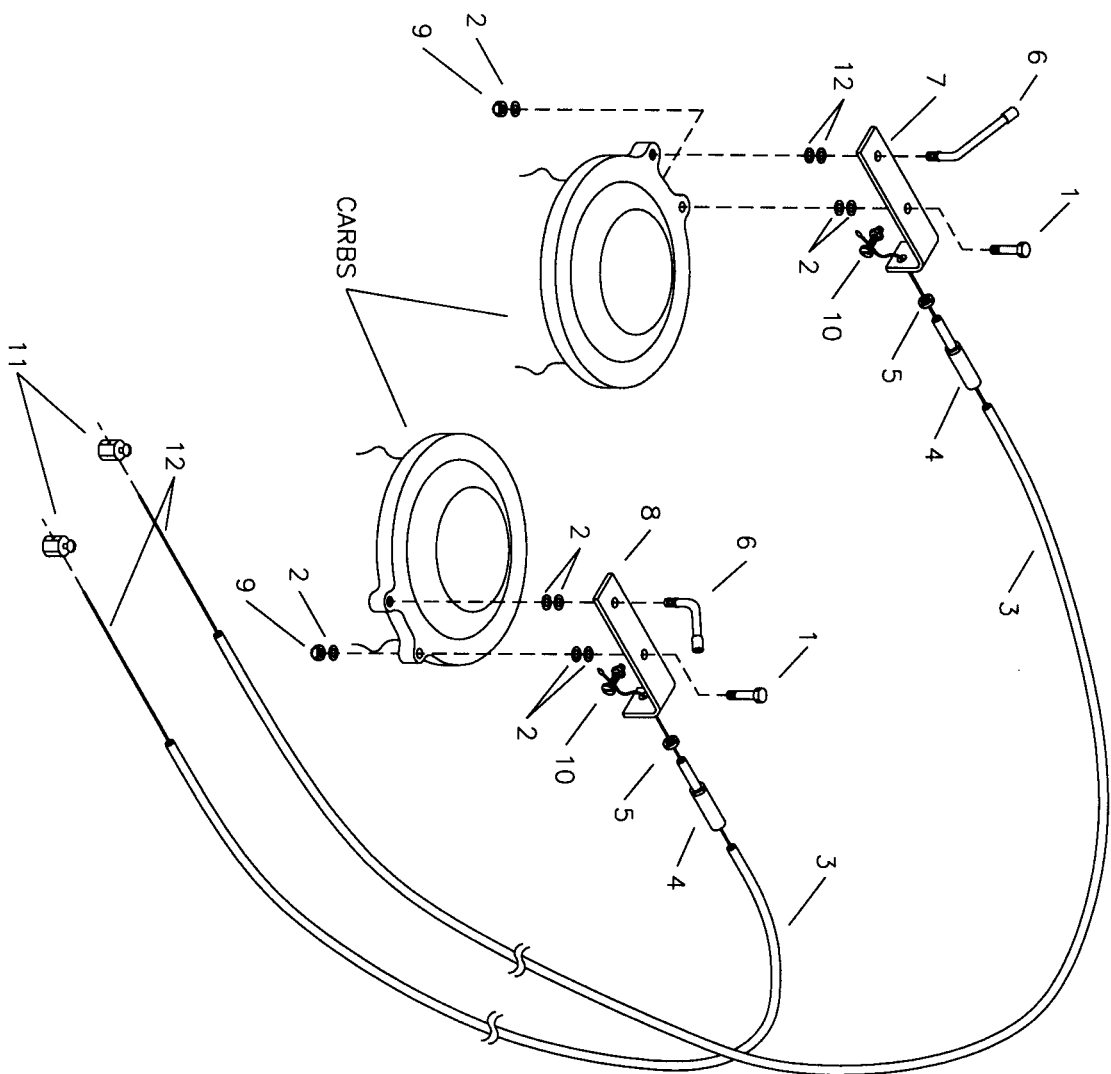


REF ID: A66666 S-12 AIRAILLE CHOKE SYSTEM ASSEMBLY

MD1902

S-12 AIRAILE 912 CHOKE SYSTEM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Cable Housing, 32"	CK-CAB-H-32	2
2.	Cable Conduit Ferrule	2394	3
3.	Double Choke Cable Stop	CK-DCS	1
4.	Brake Line Mixer Ring	B-MIX-R	1
5.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	6
6.	Choke Cable Stop	CK-CS	1
7.	Wire Stop Screw	2360	3
8.	Pull Choke Mount	CK-MT	1
9.	Pull Choke Cable	4-336	1
10.	Choke Cable 3-6"	CK-CAB (B-C105)	2



MD1903

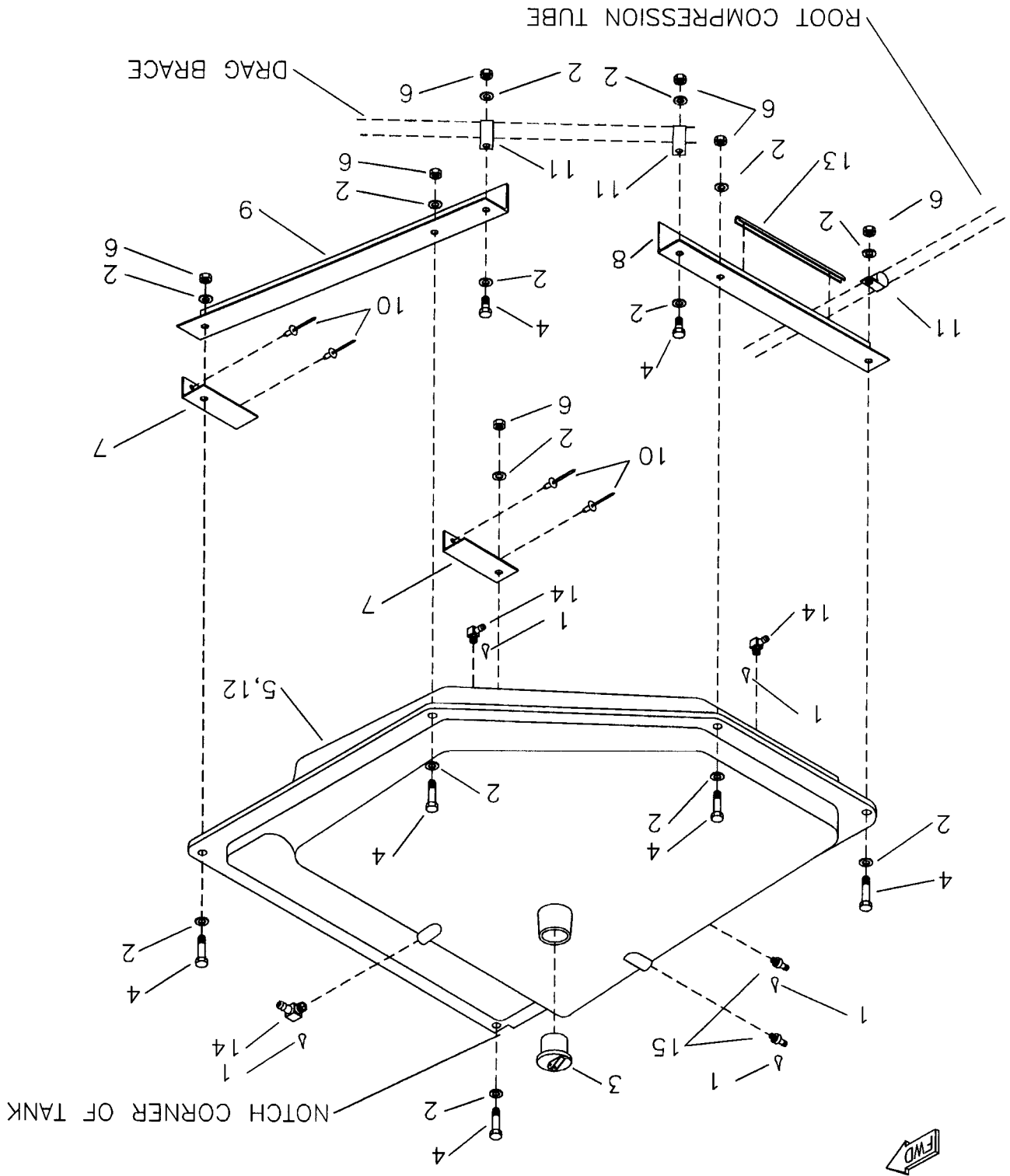
RRM S-12 AIRAILE
912 THROTTLE/CHOKE
CABLE HOOK UPS

S-12 AIRAILE 912 THROTTLE HOOKUP

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Bolt	AN3-7A	2
2.	3/16" Thick Washer	AN960-10	8
3.	Cable Housing, 132"	T-CAB	2
4.	Throttle Adj. Ferrule, Comes With Gauge	EG-ADJ-FERRULE	2
5.	1/8" Ferrule Nut	EG-FERRULE-NUT	2
6.	Choke Cable Guide, Comes With Gauge	EG-CHK-CAB-GUIDE	2
7.	Throttle Cable Mount 912, LH	EG-TCM-L	1
8.	Throttle Cable Mount 912, RH	EG-TCM-R	1
9.	3/16" Shear Nut	AN364-1032A	2
10.	Wire Stop/Screw, Comes With Engine	EG-WIRE-STOP	2
11.	Wire Stop/Screw	2360	2
12.	Throttle Cable, 130"	T-912-CAB	0

RMS S-12 AIRAILE WING TANK & MOUNT ASSEMBLY

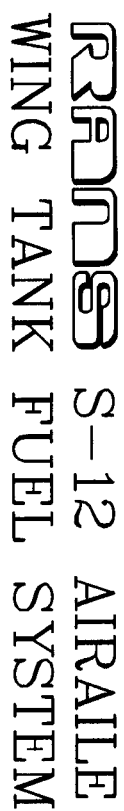
MD1856



S-12 AIRAILE WING TANK & MOUNT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	J & B Weld Epoxy	J & B	1
2.	3/16" Thick Washer	AN960-10	32
3.	Fuel Cap	51015	2
4.	3/16" Bolt	AN3-5A	14
5.	Right Wing Tank, 6.5 Gallon	FS-T6.5RH	1
6.	3/16" Shear Nut	AN364-1032A	16
7.	Forward Mount Angle*	FS-FWDMA-A	4
8.	AFT Mount Angle	FS-AFTMA	2
9.	Outer Mount Angle*	FS-OUTMA	2
10.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	10
11.	1" Cushioned Clamp	MS21919-DG16	6
12.	Left Wing Tank, 6.5 Gallon	FS-T6.5LH	1
13.	Rubber Trim, 16"	X1011-16	1
14.	90 Withdrawl Fitting	8342	6
15.	Straight Withdrawl Fitting	8330	4

*Builder locates and drills holes.



*** NOT TO BE USED ON
912 ENGINE OPTION**

S-12 AIRAILE WING TANK FUEL SYSTEM

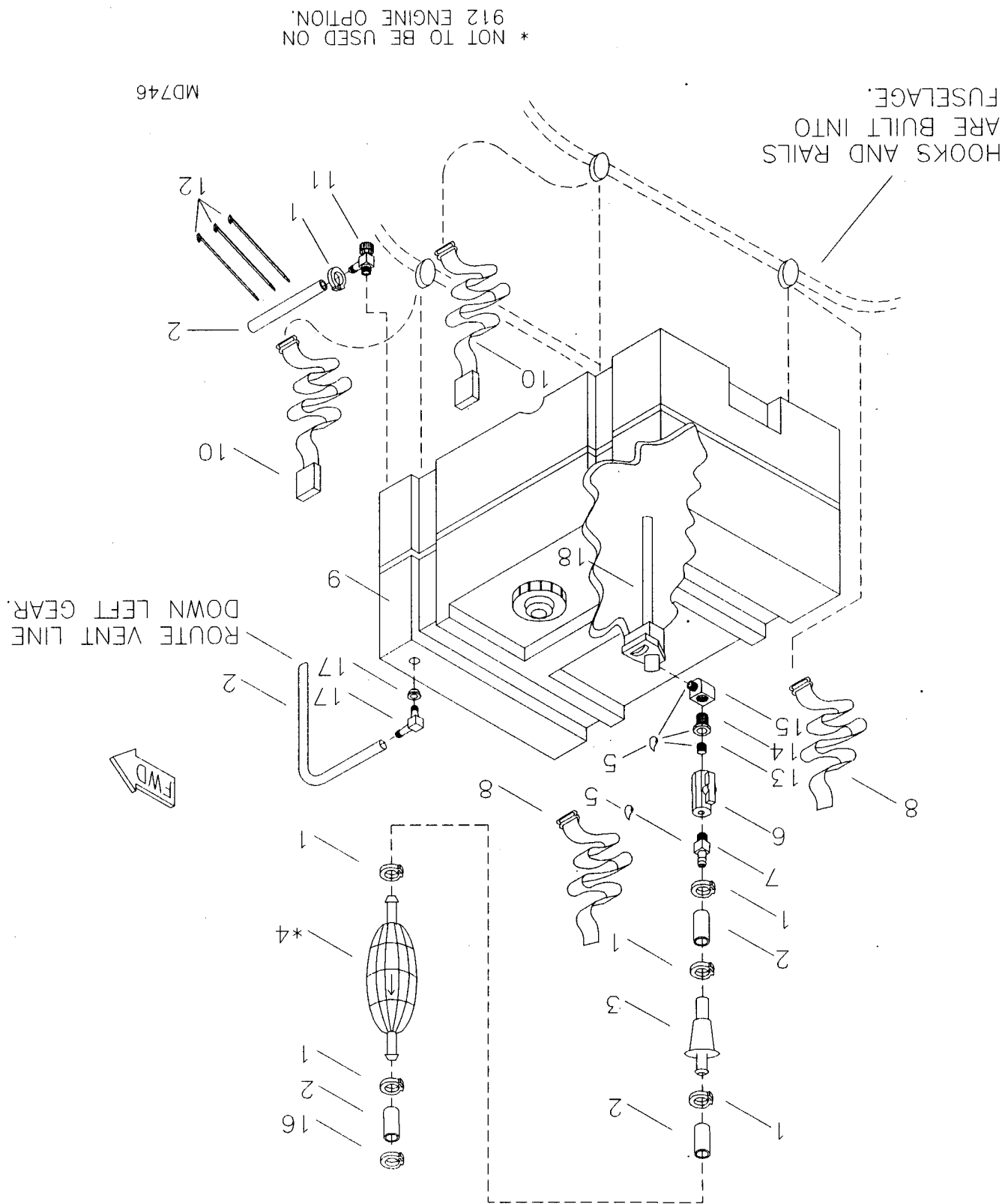
#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Line Clamp, 3/8"	FS-LCL 3/8	18
2.	1/4" Fuel Line	FS-FL	50 ft
3.	Coil Wrap	1/2 SPIRAL LOOM	2 ft
4.	Line "Y"	8345	2
5.	Primer Fuel Line "T"	SEE PRIMER KIT	0
6.	Fuel Filter	FS-FIL	1
7.	Straight Withdrawl Fitting	8330	3
8.	Fuel Shut Off Valve	FS-S-OFF	1
9.	Zip Ties	ZIP TIES	10
10.	1/4" X 1/4" Elbow	7-11044	4
11.	Fuel Mixer Block	FS-FMB	1
12.	Sump Valve	8336	1
13.	Fuel Pump	SEE ENGINE	0
14.	Line Clamp, 5/16" I.D.*	FS-LCL 5/16ID	17
15.	8 X 32 Bolt	AN526-832R16	1
16.	8 X 32 Nut	AN364-832A	1
17.	Primer Bulb** (-1 912)	FS-PB	1
18.	90 Withdrawl Fitting	8342	2
19.	Loctite Blue	LOCTITE BLUE	0
20.	1" Cushioned Clamp	MS21919-DG16	1
21.	Primer Pump Kit**	503 SINGLE	1
21.	Primer Pump Kit**	582 DUAL	1
22.	1/8" Primer Line	PRIME LINE	6 ft
23.	Overflow Hose	EGCS-OFH	2 in

*PLEASE NOTE: Where the 3/8" and 5/16" line clamps are used for best fit.

**Not to be used on 912 engine option.

RRMS S-12 AIRAILE AUXILIARY FUEL SYSTEM

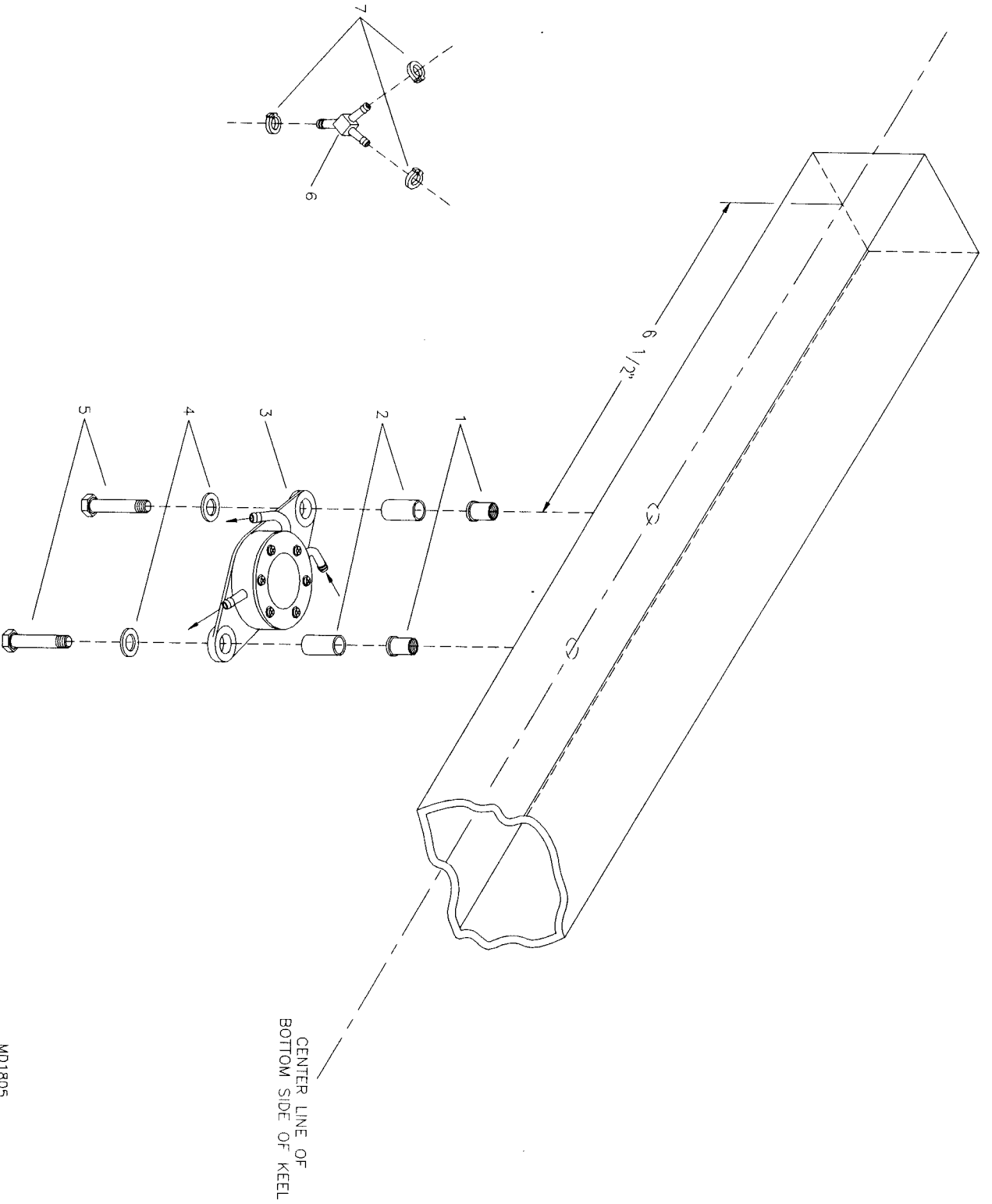
6/15/94



S-12 AIRAILE FUEL SYSTEM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Line Clamp, 3/8"	FS-LCL 3/8	6
2.	1/4" Fuel Line	FS-FL	14 ft
3.	Fuel Filter	W/ STD FUEL SYSTEM	0
4.	Primer Bulb**	W/ STD FUEL SYSTEM	0
5.	Loctite Blue	W/ STD KIT	0
6.	Fuel Shut Off Valve	FS-S-OFF	1
7.	Straight Withdrawl Fitting	8330	1
8.	Fuel Tank Strap Adjustor	FS-FTS-ADJ	2
9.	Fuel Tank 11.5 Gallon	FS-TANK	1
10.	Fuel Tank Strap Buckle	FS-FTS-B	2
11.	90 Elbow	190-251	1
12.	Zip Ties	ZIP TIES	3
13.	1/8" Nipple	1/8NIP	1
14.	Reducer Coupler, 1/4" X 1/8"	FS-RC	1
15.	1/4" 90 Fitting	1/4NTP-90	1
16.	Line Clamp, 5/16" I.D.*	FS-LCL 5/16ID	1
17.	90 Vent Withdrawl	10649	1
18.	Pick Up Tube	FT-FPUT	1

*Two sizes of fuel line clamps are used. Please pay close attention to the locations used
 To tell what size clamp is, close clamp completely & measure across inside diameter (I.D.)
 They should be 5/16" or 3/8" depending on the clamp. **Not to be used on 912 engine option



RRAD S-12/14 AIRAILE
503/582 FUEL PUMP ASSEMBLY

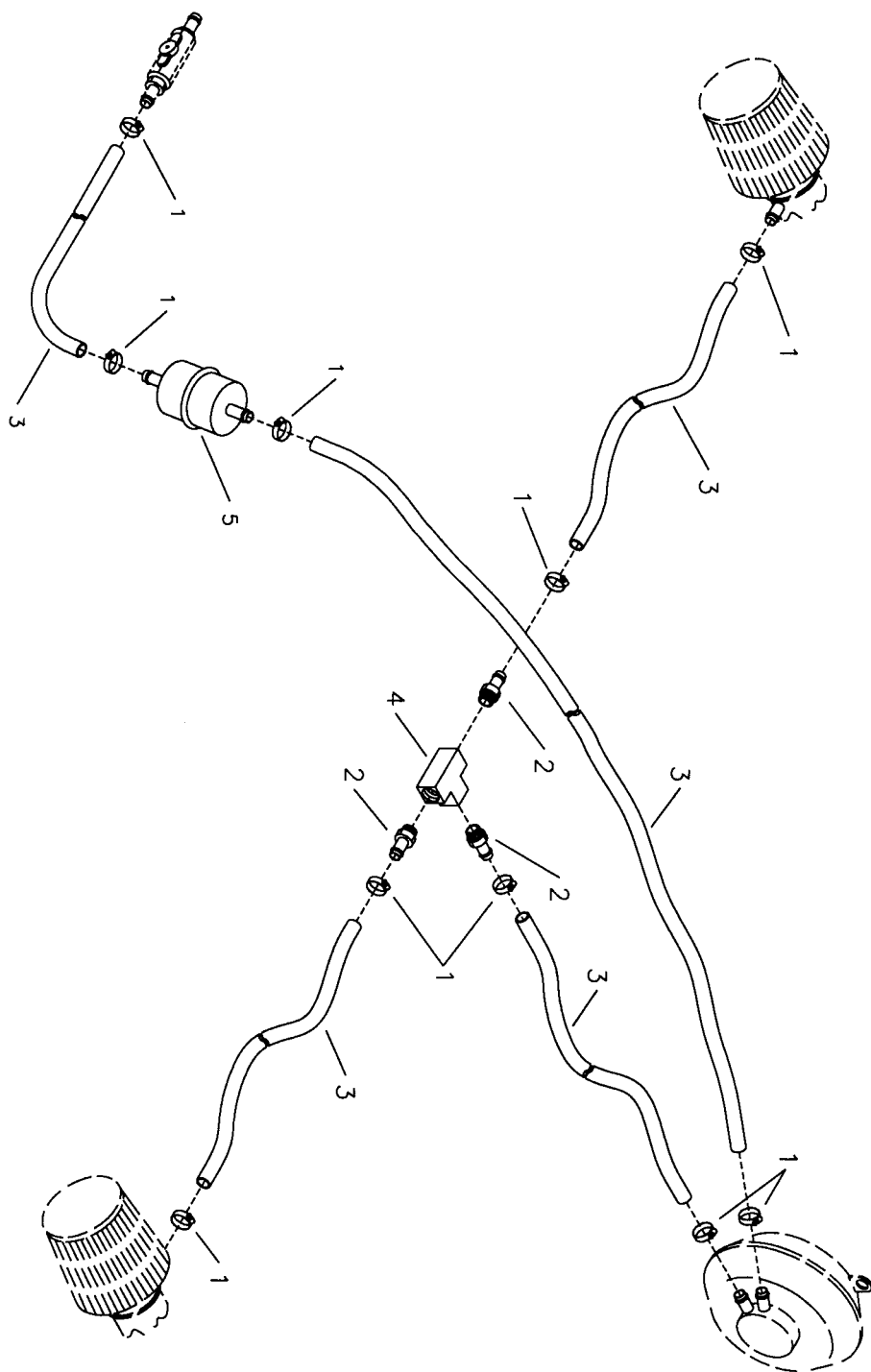
MD1805

S-12 AIRAILE 503/582 FUEL PUMP ASSEMBLY

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Rivet Nut	MS27130-A25K	2
2.	Spacer Bushing, 3/8" X .058 X 1"	SB-3/8X1	2
3.	Fuel Pump, Comes With Engine	EG-FUEL-PUMP	0
4.	3/16" Thick Washer	AN960-10	2
5.	3/16" Bolt	AN3-15A	2
6.	Line "Y", 503 Single Carb Only**	8345	1
7.	Line Clamp, 3/8", 503 Single Carb Only**	FS-LCL 3/8	3

*Builder fabricates.

**Used on the 503 Single Carb to connect outputs on the pump.

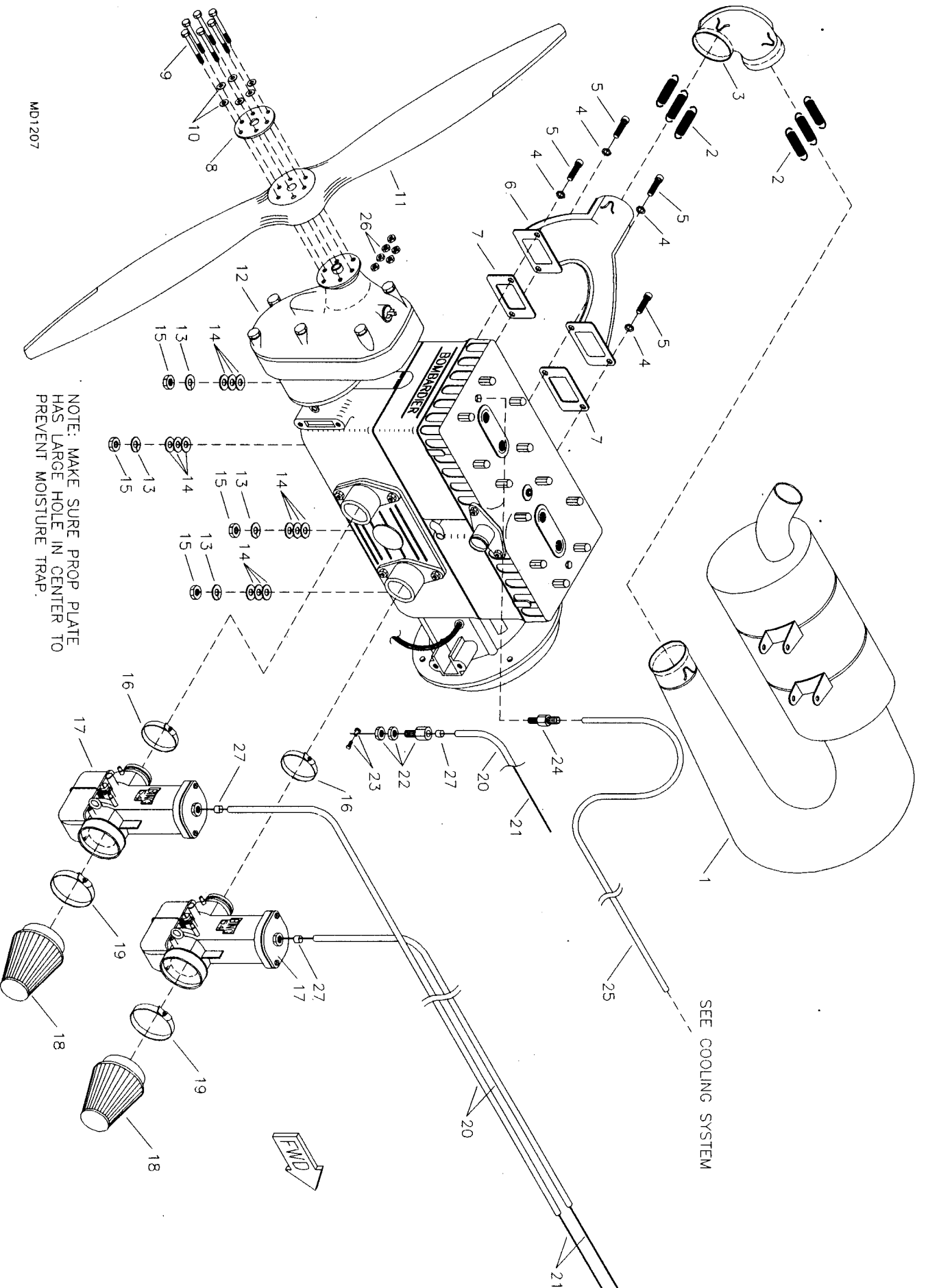


S-12 AIRAILLE
912 FUEL PUMP HOOK UP

MD1904

S-12 AIRAILE 912 FUEL/CARB/PUMP HOOKUP

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Line Clamp, 5/16" I.D.	FS-LCL 5/16ID	10
2.	Straight Withdrawl Fitting	8330	3
3.	Black Fuel Line	27002A	7 ft
4.	1/8" Brass Tee	3-20120	1
5.	Fuel Filter	33031	1



MD1207

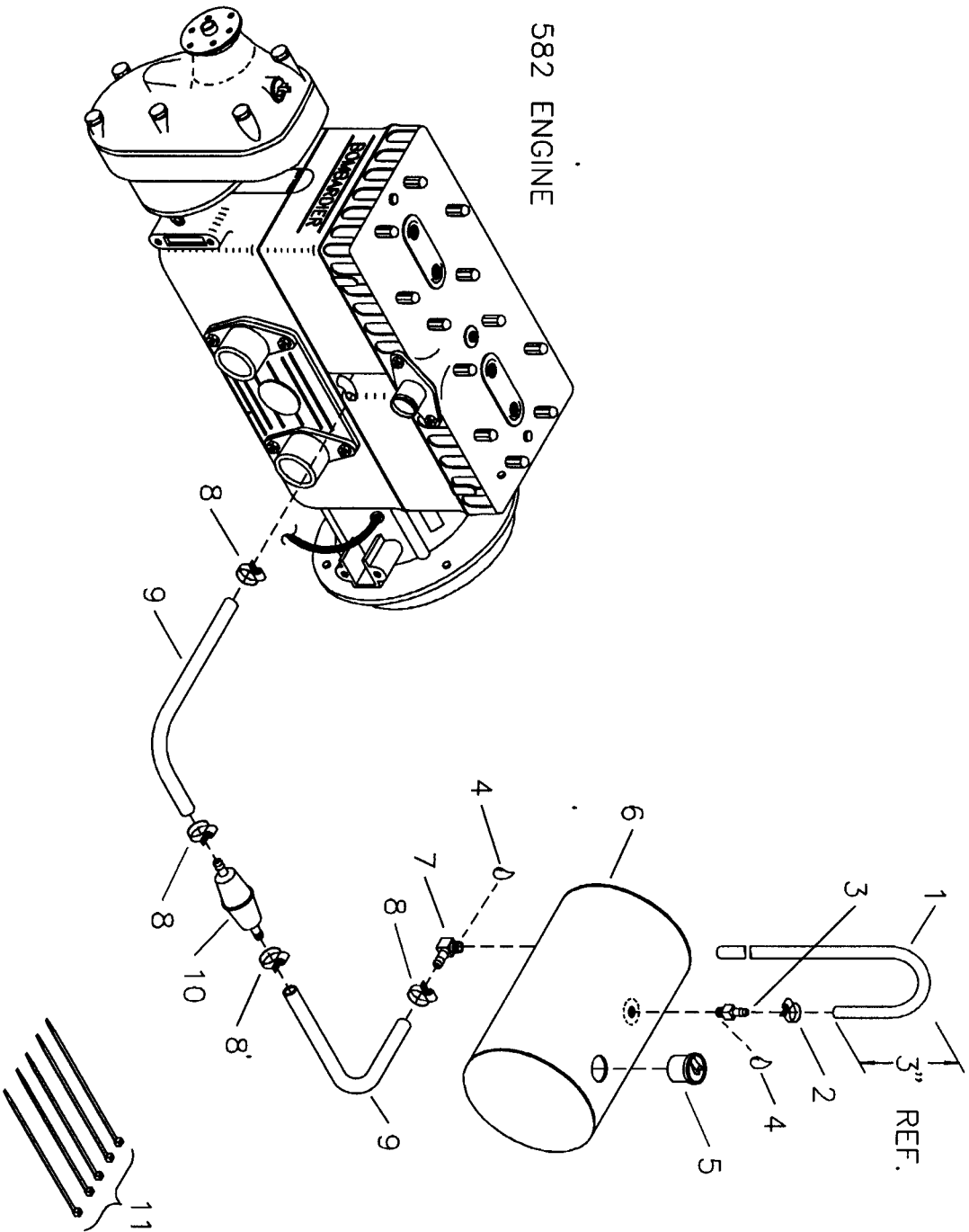
PRATT & WHITNEY S-12/14 AIRFRAME 582 ENGINE/PROP/MUFFLER

S-12 AIRAILE 582 ENGINE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Muffler	EG-MUFF	1
2.	Muffler Springs	EG-MUFF-S-582	6
3.	Muffler Elbow	EG-MUFF-ELBOW	1
4.	10MM Loc Washer*	EG-LOC-10MM	4
5.	10MM Shoulder Screw*	EG-SC-10MM	4
6.	Exhaust Manifold	EG-ME	1
7.	Exhaust Gaskets*	EG-EX-G	2
8.	Prop Plate*	EG-PROP-PLATE	1
9.	1/4" Bolt (STD) (-6 9" Spinner)	AN4-32A	6
10.	1/4" Thick Washer	AN960-416	6
11.	Propeller	EG-PROP	1
12.	Rotax 582 Engine	EG-EG-582	1
13.	Engine Loc Washer*	EG-LOC-W	4
14.	7/16" Washer	AN960-716	12
15.	Engine Stud Nuts*	EG-SNUT	4
16.	Carb Clamp*	EG-CARB-CLAMP	2
17.	Bing Carburetor*	EG-CARB	2
18.	Air Filter, K & N	EG-AF	2
19.	Air Filter Clamp, Comes With Filter	EG-AF-CLAMP	2
20.	Throttle Cable Housing, 9'	EG-T-CAB-H	3
21.	Throttle Cable, 12'	EG-CAB-12	3
22.	Adjustor Cable Ferrule	2373	1
23.	Wire Swivel Stop	2361	1
24.	6MM Nipple*	EG-NIPPLE	0
25.	1/8" Coolant Pressure Line, 14', See Elec. & Inst.	PRIMER LINE/PRESS	0
26.	1/4" Tensile Nut	AN365-428A	6
27.	Cable Ferrule Cap	ENDCAP-12000	3

*Comes with engine.

ROTAX 582 ENGINE



MD1908

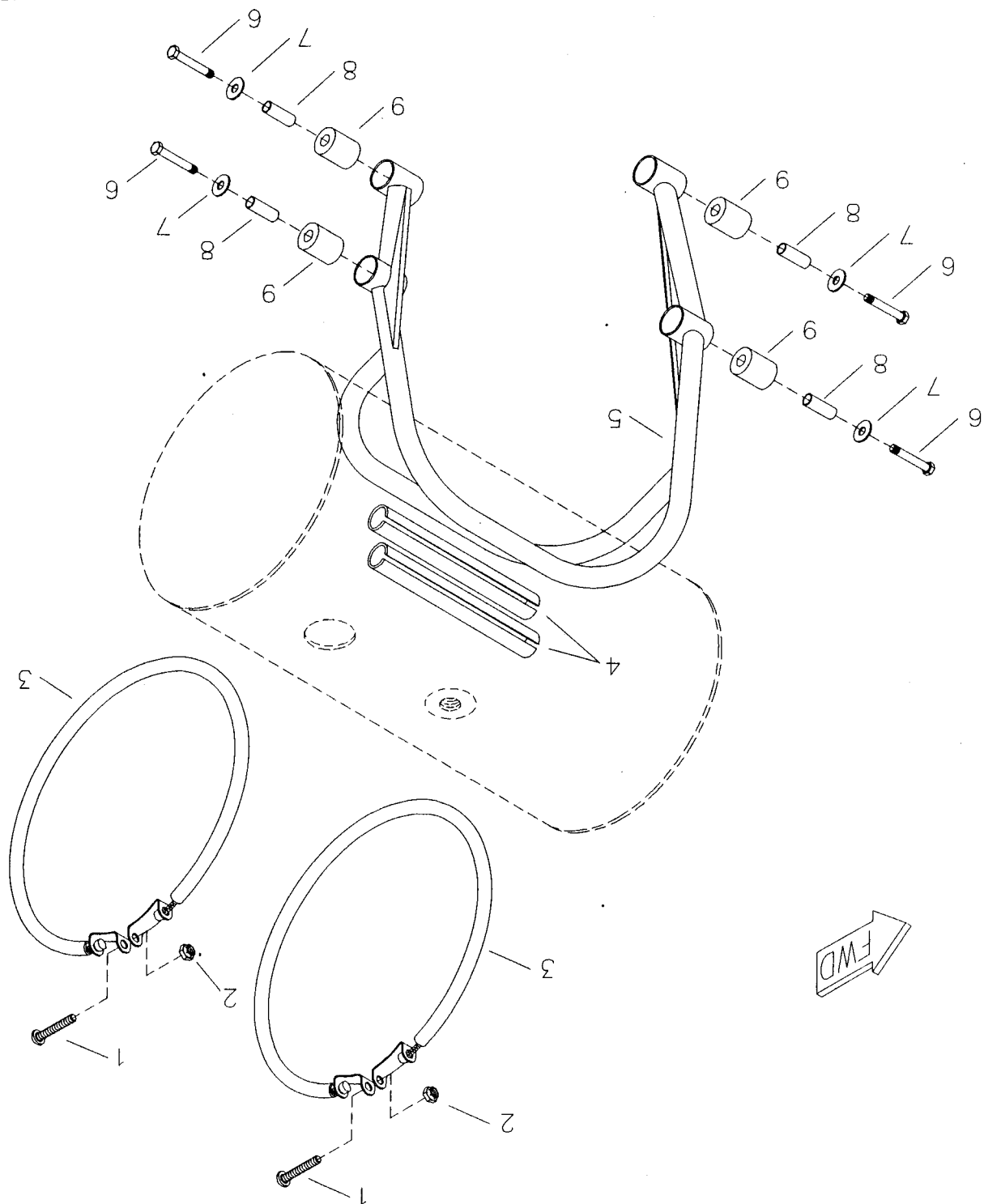
ROTAX S-12/14 AIRAILE
OIL INJECTION TANK ASSEMBLY

S-12 AIRAILE OIL INJECTION TANK

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Fuel Line	FS-FL	1 ft
2.	Line Clamp, 3/8"	FS-LCL 3/8	1
3.	Straight Withdrawl Fitting	8330	1
4.	Blue Loctite	LOCTITE BLUE	0
5.	7/8" Expansion Cap	2598K29	1
6.	Oil Tank	OI-TANK-A	1
7.	90 Fitting	383125	1
8.	Line Clamp	5-6202	4
9.	5/16" Line	OI-5/16LINE	1 ft
10.	Oil Filter	414-5365	1
11.	Zip Ties	ZIP TIES	5

RRMS S-12 & S-14 OIL INJECTION TANK MOUNT

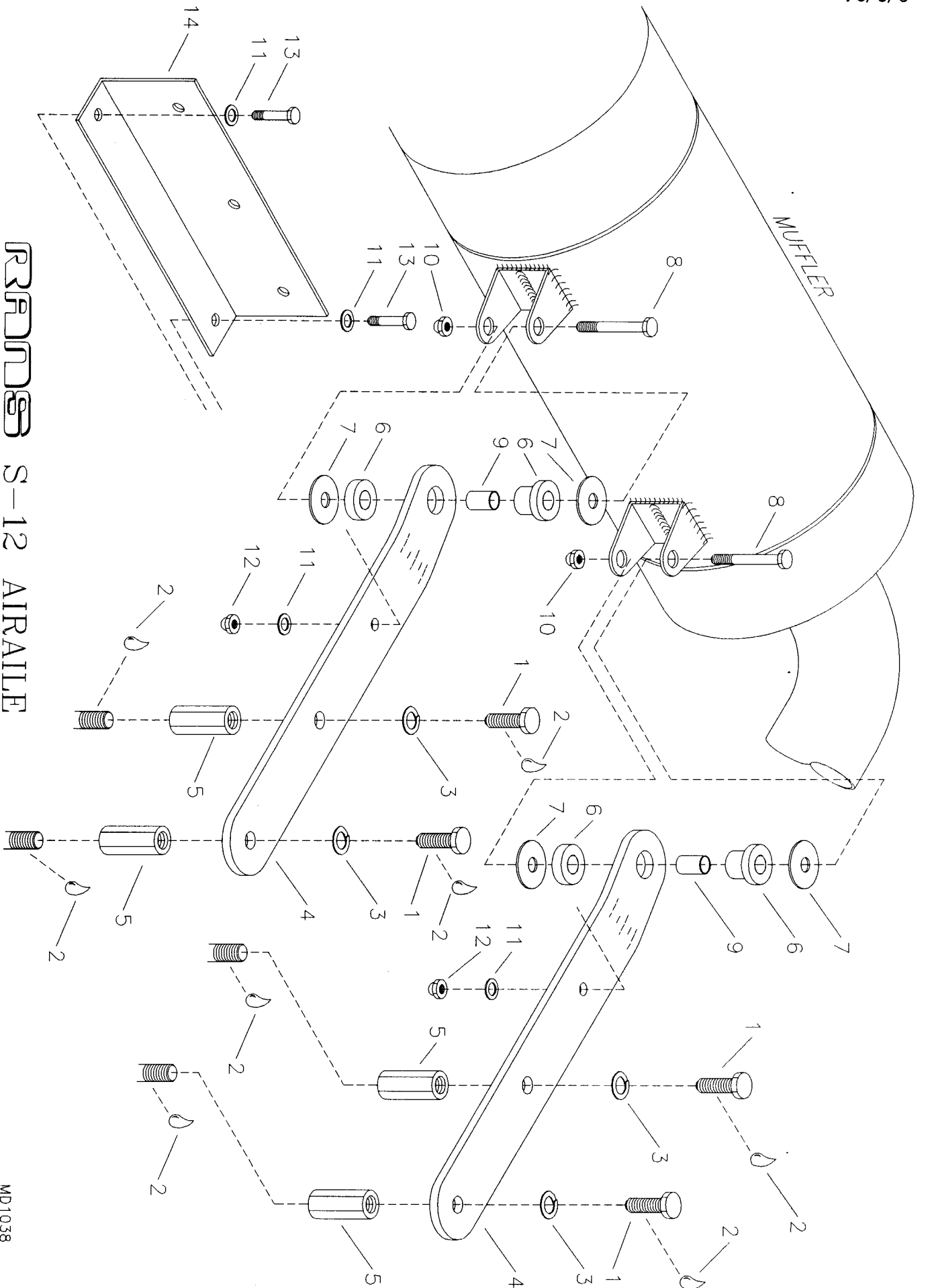
MD952



S-12 AIRAILE OIL INJECTION TANK MOUNT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Truss Head Screw	AN526-C1032R12	2
2.	3/16" Tensile Nut	AN365-1032A	2
3.	Oil Injector Tank Clamp	KAPW0003	2
4.	7/16" Black Fuel Line, in	OI-RH-12	12
5.	Oil Tank Mount	OI-OTMT	1
6.	8MM X 35MM Bolt	M8X35	4
7.	3/16" Wood Washer	OI-OTMW	4
8.	Rubber Hose	OI-RH7/16	4
9.	Rubber Hose	OI-RH3/4	4

RRM S-12 AIRAILE 582 MUFFLER MOUNT



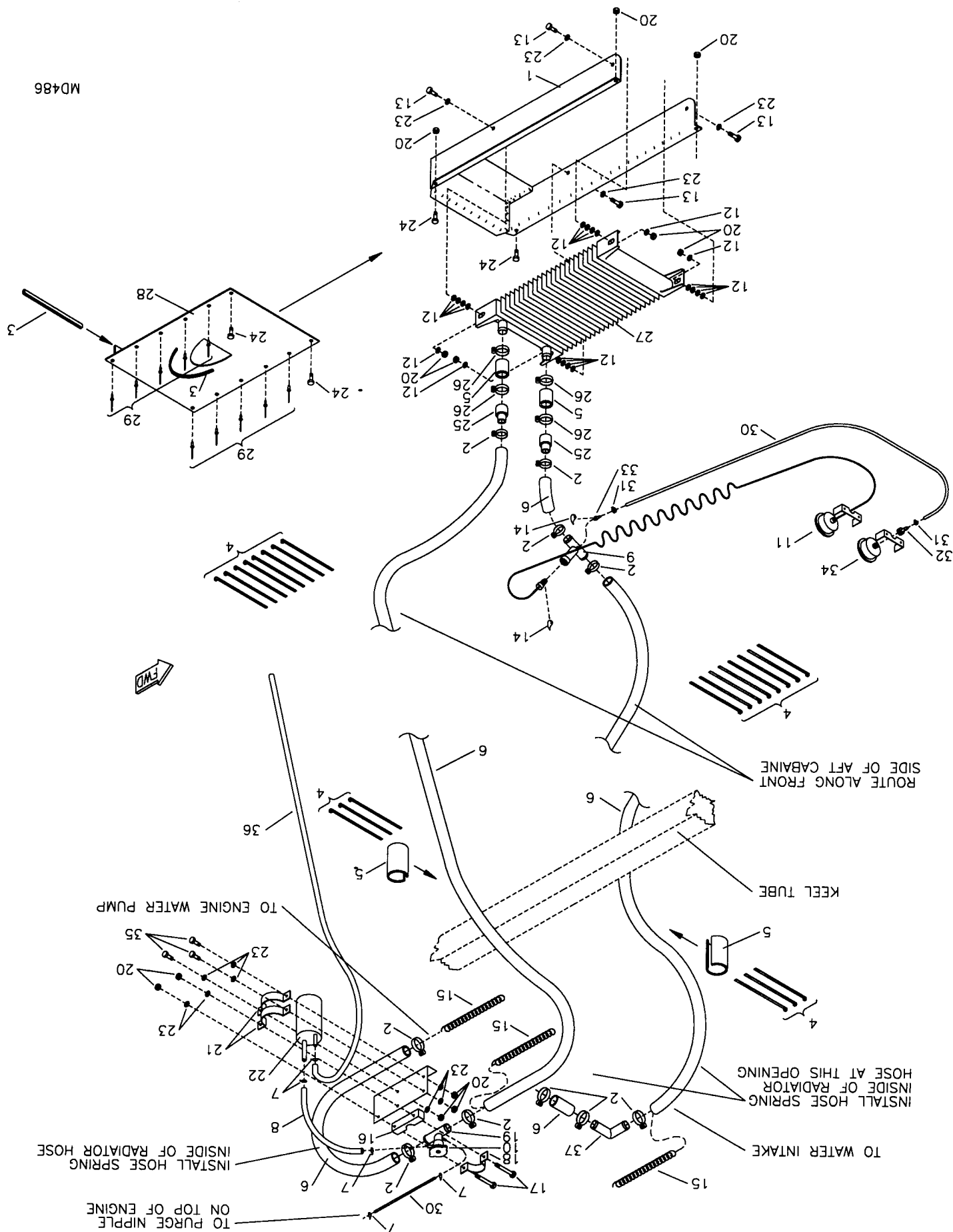
S-12 AIRAILE 582 MUFFLER MOUNT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	8MM X 20 Bolt	M8X20BOLT	4
2.	Loctite Blue	LOCTITE BLUE	0
3.	5/16" Loc Washer	AN935-516	4
4.	582 Muffler Mount Plates	EG-582MP	2
5.	8MM X 25 Stand Off	M8X25SO	4
6.	Barry Mount	22001-12	2
7.	1/8" Aluminum Washer	EG-AW	4
8.	1/4" Bolt	AN4-22A	2
9.	Spacer Busher, 1 1/8" X 3/8" X .058	EG-B3/8X1 1/8	2
10.	1/4" Shear Nut	AN364-428A	2
11.	3/16" Thin Washer	AN960-10L	4
12.	3/16" Shear Nut	AN364-1032A	2
13.	3/16" Bolt	AN3-6A	2
14.	Filler Tee & Overflow Bottle Bracket	EG-FTOB	1

RMS S-12 AIRAILE 582 COOLING SYSTEM

04/17/95

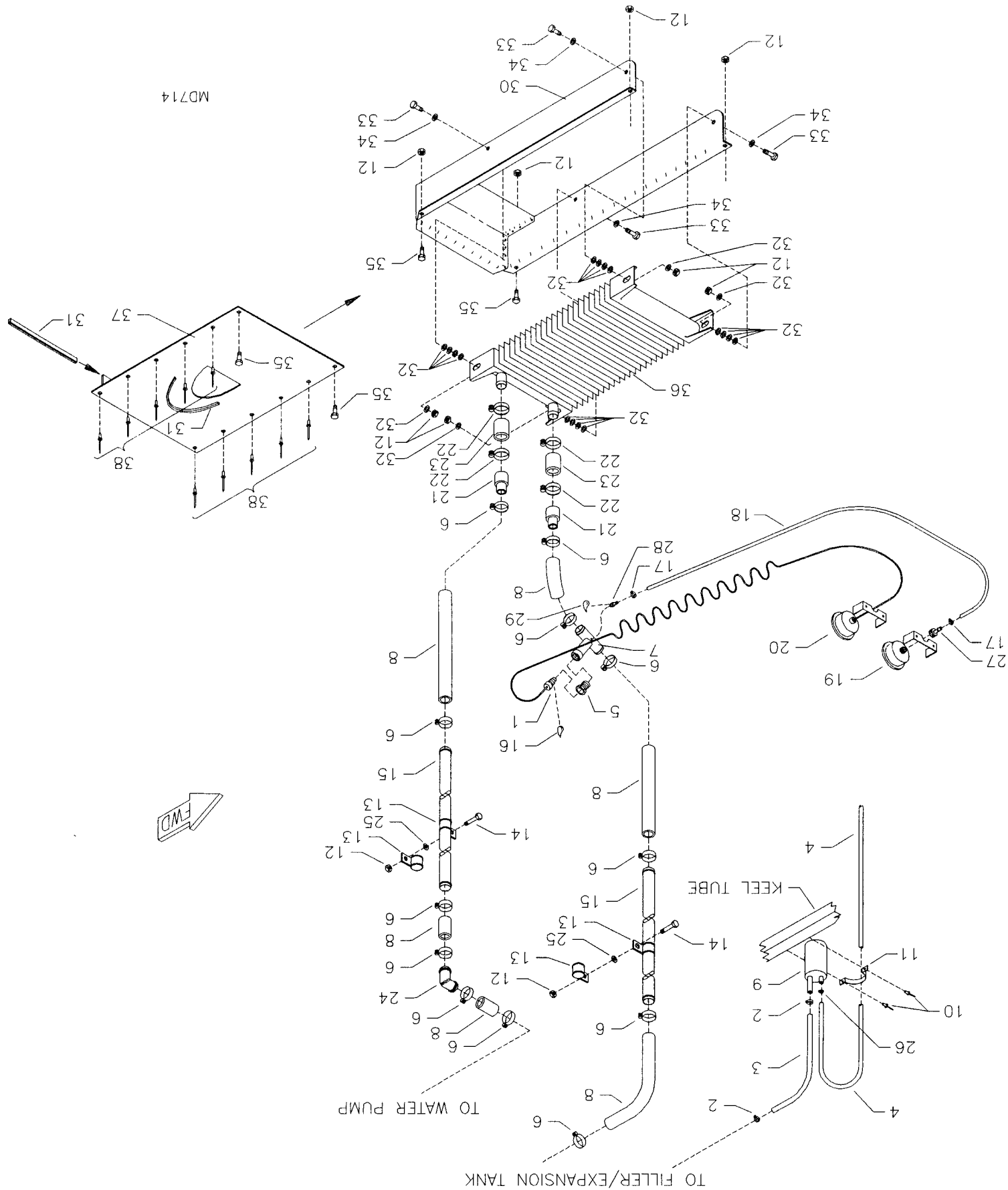
006G-1



MD486

S-12 AIRAILE COOLING SYSTEM (ROTAX 582)

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Short Style Cooling Scoop	EGCS-SSCOOP	1
2.	Hose Clamp	5-5216	10
3.	Rubber Trim	X1011	30 in
4.	Zip Ties	ZIP TIES	22
5.	Rubber Hose	EGCS-RHOSE	4
6.	1" Radiator Hose	EGCS-RADH	180 in
7.	Safety Wire	SAFETY WIRE	1
8.	Overflow Hose	EGCS-OFH	1 ft
9.	Temperature Probe Tee	EGCS-TEMP-T-N	1
10.	18 lb. Pressure Cap	EGCS-CAP18	1
11.	Water Temperature Sender	H20 TEMP	1
12.	3/16" Plastic Washer	PW-3	20
13.	3/16" Bolt	AN3-6A	4
14.	Loctite Blue	LOCTITE BLUE	0
15.	Hose Spring	EGCS-HS	3
16.	Mount Block	EGCS-FNMPVC	1
17.	3/16" Bolt	AN3-14A	2
18.	Filler "T" Mount	EGCS-FNSTRAP	1
19.	Filler Cap Tee	EGCS-FCT-N	1
20.	3/16" Shear Nut	AN364-1032A	13
21.	Coolant Recovery Clamp	FS-HS	2
22.	Coolant Recovery Bottle	EGCS-CRB	1
23.	3/16" Thin Washer	AN960-10L	12
24.	3/16" Bolt	AN3-4A	4
25.	Reducer Coupler	EGCS-RC	2
26.	Hose Clamp, 1 1/4"	5-5220	4
27.	Radiator	EGCS-RAD	1
28.	Radiator Top Panel (-1 Full Enclosure)	EGCS-RAD-TOP	1
29.	1/8" Aluminum Pop Rivet	30APR1/8	10
30.	Coolant Pressure Line	PRESS-1/8	125 in
31.	Small Hose Clamp	5-6202	2
32.	1/8" Straight Fitting, Brass	26-4-2	1
33.	Brass Nipple 1/8" Pipe	X-27-2	1
34.	Water Pressure Gauge	EGCS-COOL-PRESS	1
35.	3/16" Bolt	AN3-3A	3
36.	1/4" Fuel Line, ft	FS-FL	6
37.	90 Copper Fitting, 1" Diameter	EGCS-90CFI	1



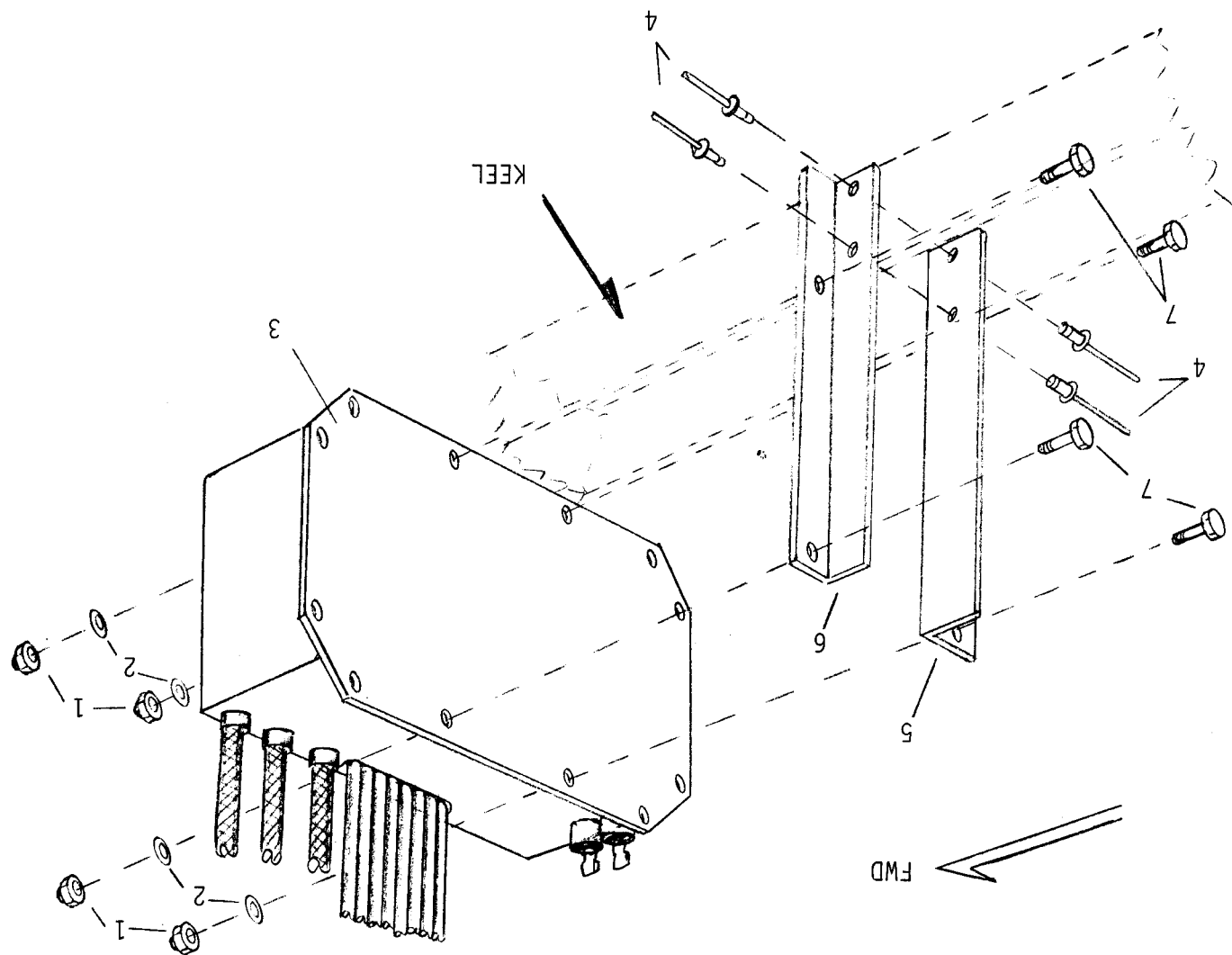
RMS S-12 AIRAILE 912 COOLING SYSTEM

S-12 AIRAILE 912 COOLING SYSTEM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Water Temp Probe (Electric)	SEE #20	1
2.	Line Clamp, 1/2"	FS-LCL 1/2	2
3.	Overflow Hose	EGCS-OFH-24	2 ft
4.	1/4" Fuel Line	FS-FL	6 ft
5.	Brass Reducer	WITH INSTRUMENTS	2
6.	Hose Clamp	5-5216	12
7.	Temperature Probe Tee	EGCS-TEMP-T-N	1
8.	1" Radiator Hose	EGCS-RADH	52 in
9.	Coolant Recovery Bottle	EGCS-CRB	1
10.	3/16" Aluminum Pop Rivet	12APR1/4	2
11.	Coolant Recovery Clamp	FS-HS	1
12.	3/16" Shear Nut	AN364-1032A	10
13.	1" Cushioned Clamp	MS21919-DG16	4
14.	3/16" Bolt	AN3-5A	2
15.	1" Coolant Tube, 32"	EGCS-32"	2
16.	Loctite Blue	LOCTITE BLUE	1
17.	Small Hose Clamp	5-6202	1
18.	Coolant Pressure Line	PRESS-1/8	104 in
19.	Coolant Pressure Gauge	PRESS GAUGE	1
20.	H2O Temp (Electric)	WA-TP-GA	1
21.	Reducer Coupler	EGCS-RC	2
22.	Hose Clamp, 1 1/4"	5-5220	4
23.	Rubber Hose	EGCS-RHOSE	2
24.	90 Aluminum Elbow	EGCS-ALUM-90	1
25.	3/16" Thin Washer	AN960-10L	2
26.	Line Clamp, 3/8"	FS-LCL 3/8	1
27.	1/8" Straight Fitting, Brass	26-4-2	1
28.	Brass Nipple 1/8" Pipe	X-27-2	1
29.	J & B Weld Epoxy	J & B	1
30.	Short Style Cooling Scoop	EGCS-SSCOOP	1
31.	Rubber Trim, 30"	X1011	1
32.	3/16" Plastic Washer	PW-3	20
33.	3/16" Bolt	AN3-6A	4
34.	3/16" Thin Washer	AN960-10L	4
35.	3/16" Bolt	AN3-4A	4
36.	Radiator	EGCS-RAD	1
37.	Radiator Top Panel (-1 Full Enclosure)	EGCS-RAD-TOP	1
38.	1/8" Aluminum Pop Rivet	30APR1/8	10

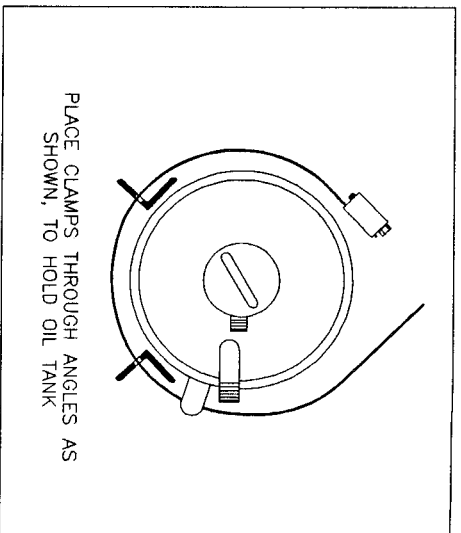
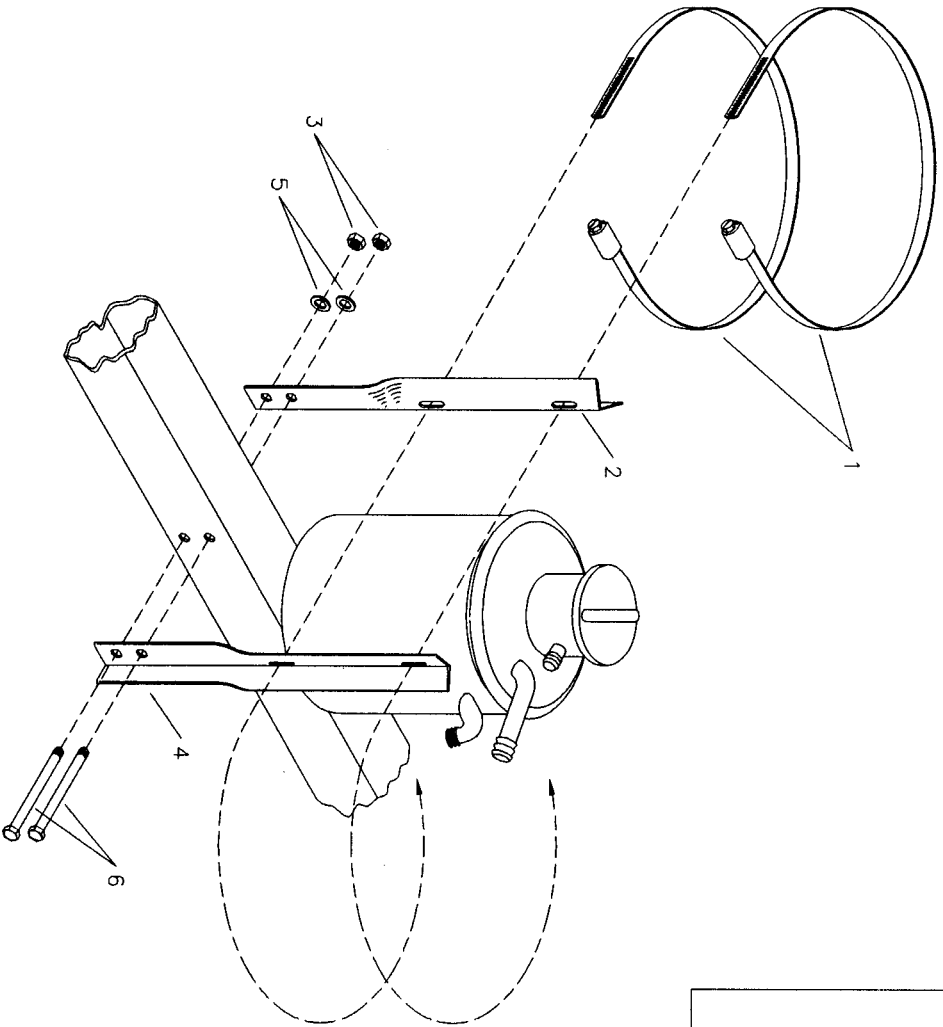
912 CDI IGNITION BOX MOUNTING

S-12 AIRRAIL



S-12 AIRAILE 912 CDI IGNITION BOX MOUNTING

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Shear Nut	AN364-1032A	4
2.	3/16" Thin Washer	AN960-10L	4
3.	CDI Ignition Box, Comes With Gauge	EG-CDI-BOX	0
4.	3/16" Stainless Steel Pop Rivet	12SSPR1/4	4
5.	CDI Angle Mount, RH	CDI-ARH	1
6.	CDI Angle Mount, LH	CDI-ALH	1
7.	3/16" Bolt	AN3-5A	4

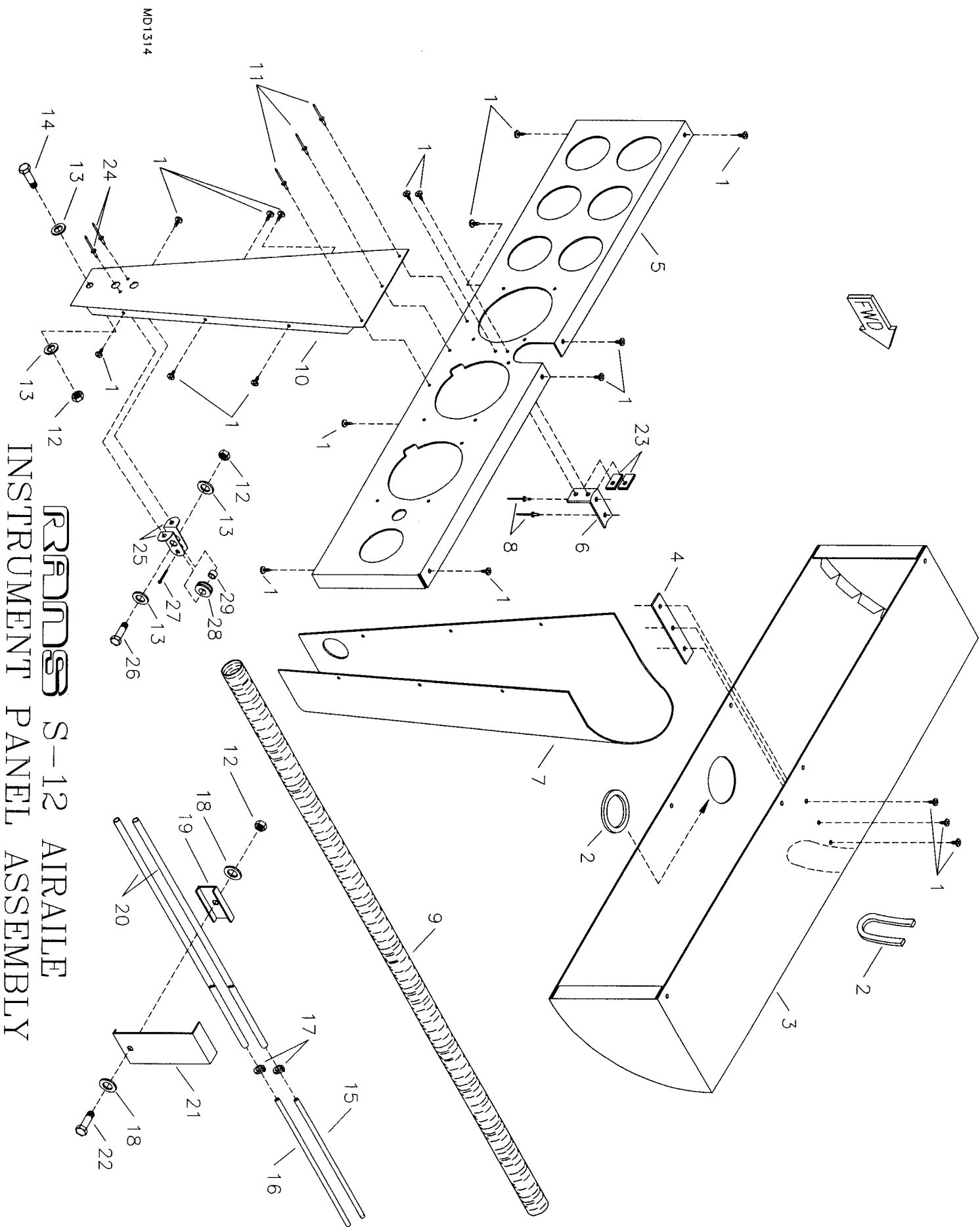


MD1623

RR-100 S-12 AIRAIL OIL TANK MOUNT ASSEMBLY

S-12 AIRAILE OIL TANK MOUNT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Hose Clamp	5-5288	2
2.	Oil Tank Mount, RH	O-TMR	1
3.	3/16" Shear Nut	AN364-1032A	2
4.	Oil Tank Mount, LH	O-TML	1
5.	3/16" Thick Washer	AN960-10	2
6.	3/16" Bolt	AN3-25A	2



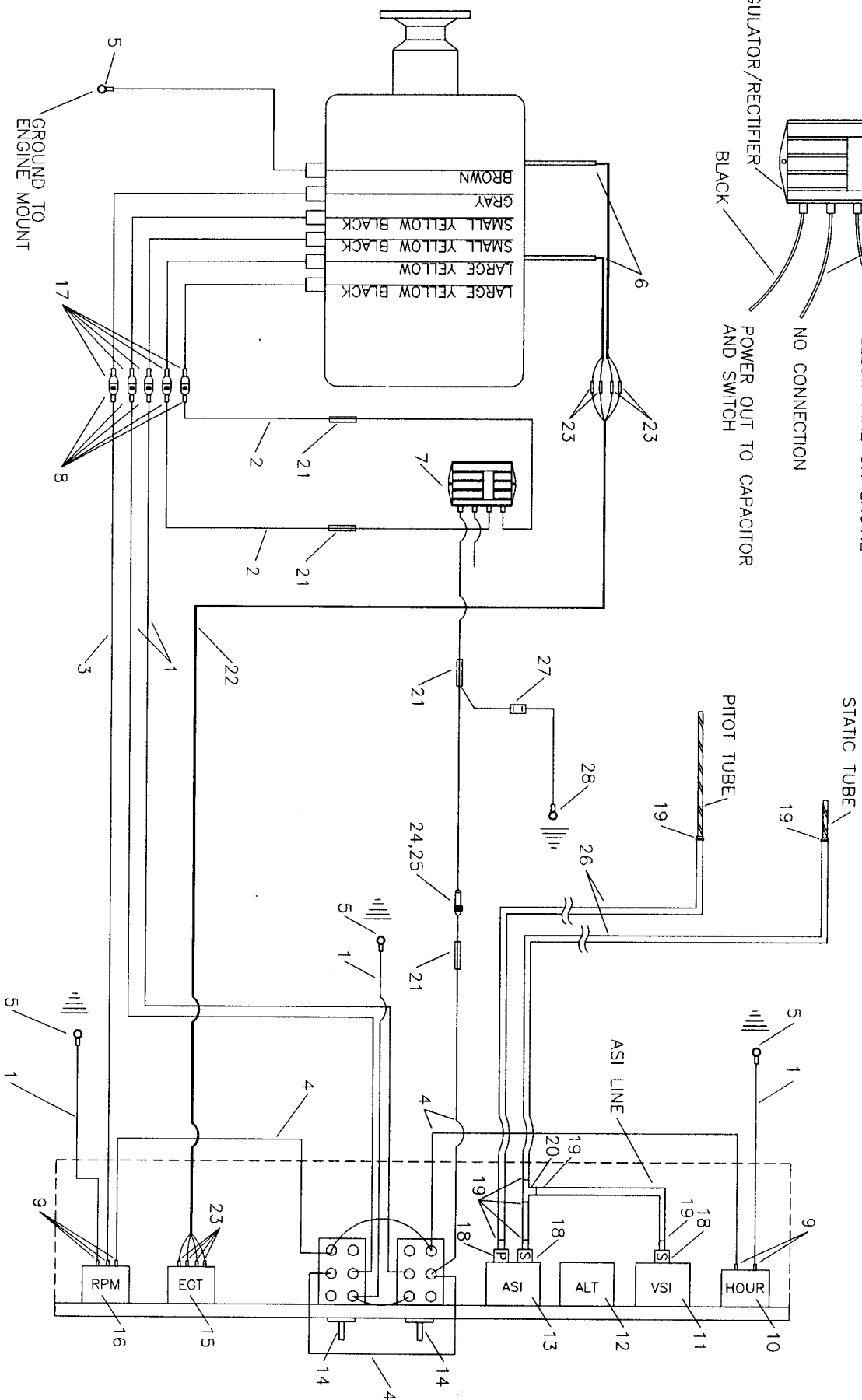
MD1314

RR-108 S-12 AIRRAIL INSTRUMENT PANEL ASSEMBLY

S-12 AIRAILE INSTRUMENT PANEL

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	#8 Pan Head Screw	8X1/2-PHS	19
2.	Hole Edging, 16"	GRPE-052-9-C	1
3.	Dust Cover Top	IP-DCT	1
4.	Anti Chafe Pad	IP-ACP	1
5.	Upper Instrument Panel	IP-UP	1
6.	Attach Angle	IP-AA	1
7.	Dust Cover Lower	IP-DCCL	1
8.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	2
9.	Wire Casing, ft	IP-WCASE	13
10.	Lower Panel	IP-LP	1
11.	1/8" Aluminum Pop Rivet	30APR1/8	3
12.	3/16" Shear Nut	AN364-1032A	3
13.	3/16" Thin Washer	AN960-10L	3
14.	3/16" Bolt	AN3-3A	1
15.	Static Tube, 1/4" X 7 1/2"*	STATIC TUBE	1
16.	Pitot Tube, 1/4" X 7 1/2"*	PITOT TUBE	1
17.	Line Clamp, 3/8"	FS-LCL 3/8	2
18.	3/16" Large Wood Washer	AN970-3	2
19.	Static Pitot Mount Clamp	IP-SPMC	1
20.	Static ASI Line, See Instruments & Electrical	ASI LINE	0
21.	Static Pitot Mount	IP-SPM	1
22.	3/16" Bolt	AN3-5A	1
23.	Clip on Tinnermans	A1789-8Z-1	2
24.	3/16" Aluminum Pop Rivet	12APR1/8	2
25.	Pulley Bracket	IP-PULBCK	2
26.	3/16" Bolt	AN3-6A	1
27.	Small Cotter Pin	MS24665-134	1
28.	Plastic Pulley	PT-TRPUL	1
29.	Pulley Bushing	PT-PULBUSH	1

*Part is 15" long, 1/4" diameter. Cut this in half to make the part.

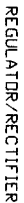


REF ID: A66666
S-12 AIRRAIL
503/582 INSTRUMENTS AND ELECTRICAL

MD1676

S-12 AIRAILE 503 INSTRUMENTS & ELECTRICAL

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	14 Gauge Black Wire	14 GA WIRE/BLACK	30 ft
2.	14 Gauge Yellow Wire	14 GA WIRE/YELLOW	6 ft
3.	14 Gauge White Wire	14 GA WIRE/WHITE	12 ft
4.	14 Gauge Red Wire	14 GA WIRE/RED	20 ft
5.	14 Gauge "I" Terminal, Blue, 3/16"	IP-7102	16
6.	CHT Lead	CHT-LEAD	0
7.	Regulator/Rectifier	264-870	1
8.	Female Connector	WITH ENGINE	0
9.	14 Gauge Female Terminal, Blue	IP-7128	5
10.	Hour Meter	HR-M	1
11.	Vertical Speed (Optional)	VSI	1
12.	Altimeter (Optional)	ALT	1
13.	Airspeed, 0-120	ASI	1
14.	Ignition Switch	8822K20	2
15.	Dual Cylinder Head Temperature	DUAL CHT	1
16.	RPM Gauge	RPM, DUAL DUCATTI	1
17.	Male Terminal	WITH ENGINE	0
18.	Straight Withdrawl Fitting	8330	3
19.	Line Clamp, 3/8" I.D.	FS-LCL 3/8	8
20.	Line Tee	8338	1
21.	14 Gauge Splice	IP-7132	4
22.	Gray 4 Plex, ft	538260	12
23.	Female Connector	02-09-1103	8
24.	25 Amp Fuse Holder	F-HLDR-25	1
25.	25 Amp Fuse	AGC-25	1
26.	1/4" Fuel Line, ft	FS-FL	12
27.	Capacitor	KSES0001	1
28.	14 Gauge "I" Terminal, 1/4"	14 GA 1/4 HOLE	1



REGULATOR/RECTIFIER

YELLOW
CONNECTS TO LARGE YELLOW/
BLACK WIRE ON ENGINE

CONNECTS TO LARGE
YELLOW WIRE ON ENGINE

NO CONNECTION

POWER OUT TO CAPACITOR
AND SWITCH
BLACK

GROUND TO
ENGINE MOUNT

GROUND TO
ENGINE MOUNT

GROUND TO
ENGINE MOUNT

RRANS-S-12 AIRRAIL

503/582 INSTRUMENTS AND ELECTRICAL
WITH ELECTRIC START OPTION

MD1678

S-12 AIRAILE 503 INSTRUMENTS & ELECTRICAL
(WITH ELECTRIC START)

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	14 Gauge Black Wire, ft	14 GA WIRE/BLACK	30 ft
2.	14 Gauge Yellow Wire, ft	14 GA WIRE/YELLOW	2 ft
3.	14 Gauge White Wire, ft	14 GA WIRE/WHITE	12 ft
4.	14 Gauge Red Wire, ft	14 GA WIRE/RED	38 ft
5.	14 Gauge "I" Terminal, Blue, 3/16"	IP-7102	22
6.	Gray 4 Plex, ft	538260	12
7.	4 Gauge Battery Cable, ft	4 GA WIRE/BLACK	20
8.	Female Connector, Comes With Engine	FEM CONNECTOR	0
9.	14 Gauge Splice	IP-7132	10
10.	Hour Meter	HR-M	1
11.	Vertical Speed (Optional)	VSI	1
12.	Altimeter (Optional)	ALT	1
13.	Airspeed, 0-120	ASI	1
14.	Ignition Switch	8822K20	2
15.	Dual Cylinder Head Temperature Gauge	CHT	1
16.	RPM Gauge	RPM	1
17.	Male Terminal, Comes With Engine	MALE TERM	0
18.	Straight Withdrawl Fitting	8330	3
19.	Line Clamp, 3/8"	FS-LCL 3/8	8
20.	Line Tee	8338	1
21.	Terminal 4 Gauge Cable	4 GA CABLE LUG	8
22.	25 Amp Fuse Holder	F-HLDR-25	1
23.	25 Amp Fuse	AGC-25	1
24.	Battery (582), Reference Only	PS-12150-NB	0
25.	Key Start Switch	25-6	1
26.	Regulator/Rectifier	264-870	1
27.	Starter Solenoid, With Electric Starter Kit	SOLENOID	0
28.	14 Gauge "Eye" Terminal	5/16 I TERM	1
29.	Electric Starter Kit	MESK-1-503	1
30.	Female Connector	IP-7128	5
31.	Connector	02-09-1103	8
32.	1/4" Fuel Line, ft	FS-FL	12
33.	Capacitor	KSES0001	1
34.	14 Gauge "I" Terminal, 1/4"	14 GA 1/4 HOLE	1



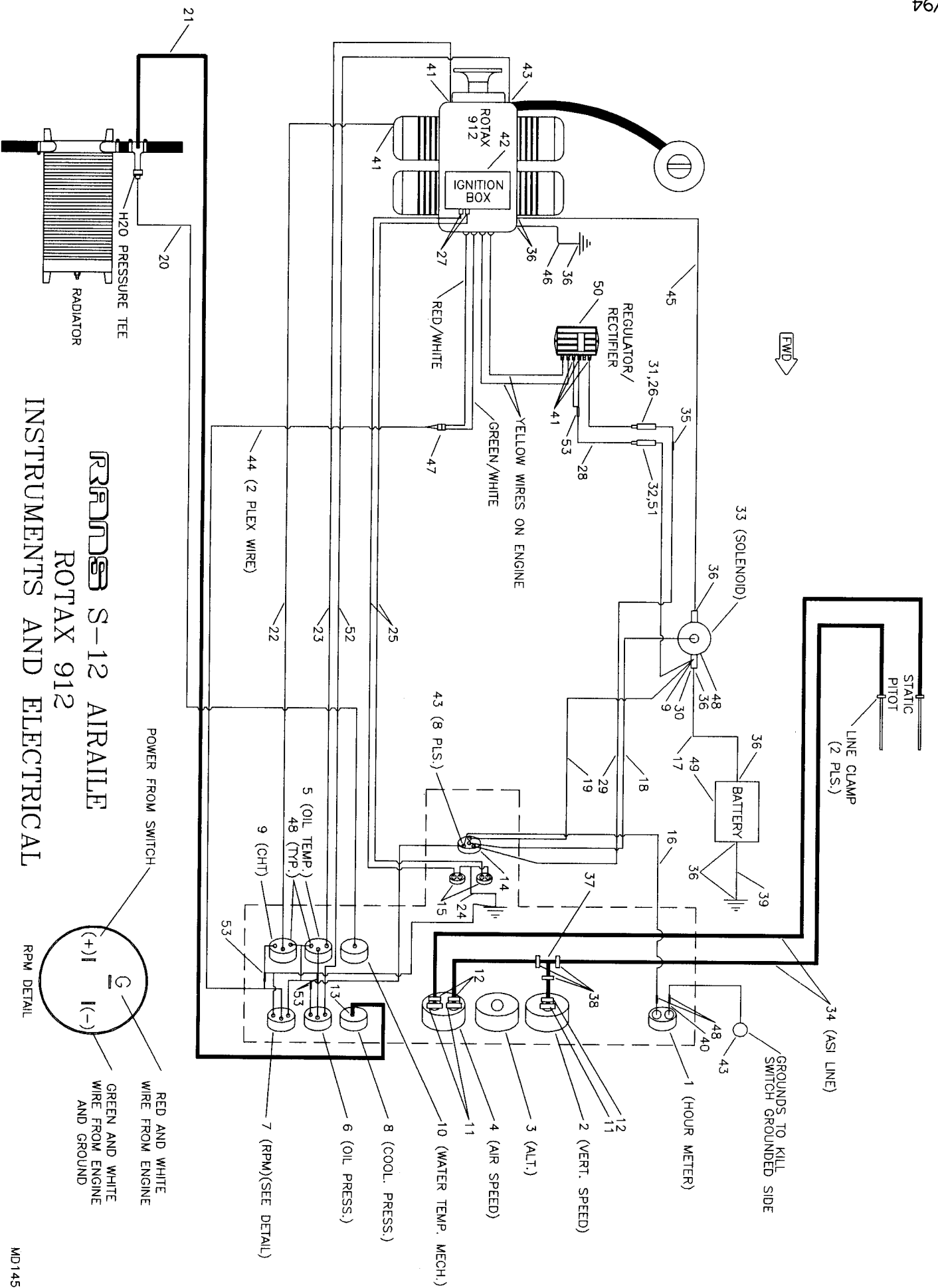
S-12 AIRAILE 582 ELECTRICAL & INSTRUMENTATION

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	14 Gauge Black Wire	14 GA WIRE/BLACK	30 ft
2.	14 Gauge Yellow Wire	14 GA WIRE/YELLOW	6 ft
3.	14 Gauge White Wire	14 GA WIRE/WHITE	12 ft
4.	14 Gauge Red Wire	14 GA WIRE/RED	20 ft
5.	14 Gauge "I" Terminal, Blue, 3/16"	IP-7102	16
6.	Exhaust Temp Probes, Comes With Gauge	EG-TEMP-PROBE	0
7.	Regulator/Rectifier	264-870	1
8.	Female Connector, Comes With Engine	FEM CONNECTOR	0
9.	14 Gauge Female Connector, Blue	IP-7128	5
10.	Hour Meter	HR-M	1
11.	Vertical Speed (Optional)	VSI	1
12.	Altimeter (Optional)	ALT	1
13.	Airspeed, 0-120	ASI	1
14.	Ignition Switch	8822K20	2
15.	Exhaust Temperature Gauge	EGT	1
16.	RPM Gauge	RPM	1
17.	Male Terminals, Comes With Engine	MALE TERM	0
18.	Straight Withdrawl Fitting	8330	3
19.	Line Clamp, 3/8"	FS-LCL 3/8	8
20.	Line Tee	8338	1
21.	14 Gauge Splice	IP-7132	4
22.	Gray 4 Plex, ft	538260	12
23.	Connectors	02-09-1103	8
24.	25 Amp Fuse Holder	F-HLDR-25	1
25.	25 Amp Fuse	AGC-25	1
26.	1/4" Fuel Line, ft	FS-FL	12
27.	Capacitor	KSES0001	1
28.	14 Gauge "I" Terminal	14 GA 1/4 HOLE	1



S-12 AIRAILE 582 INSTRUMENTS & ELECTRICAL
(WITH ELECTRIC START)

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	14 Gauge Black Wire, ft	14 GA WIRE/BLACK	30 ft
2.	14 Gauge Yellow Wire, ft	14 GA WIRE/YELLOW	2 ft
3.	14 Gauge White Wire, ft	14 GA WIRE/WHITE	12 ft
4.	14 Gauge Red Wire, ft	14 GA WIRE/RED	38 ft
5.	14 Gauge "I" Terminal, Blue, 3/16"	IP-7102	22
6.	Gray 4 Plex, ft	538260	12
7.	4 Gauge Battery Cable, ft	4 GA WIRE/BLACK	20
8.	Female Connector, Comes With Engine	FEM CONNECTOR	0
9.	14 Gauge Splice	IP-7132	10
10.	Hour Meter	HR-M	1
11.	Vertical Speed (Optional)	VSI	1
12.	Altimeter (Optional)	ALT	1
13.	Airspeed, 0-120	ASI	1
14.	Ignition Switch	8822K20	2
15.	Exhaust Temperature Gauge	EGT	1
16.	RPM Gauge	RPM	1
17.	Male Terminal, Comes With Engine	MALE TERM	0
18.	Straight Withdrawl Fitting	8330	3
19.	Line Clamp, 3/8"	FS-LCL 3/8	8
20.	Line Tee	8338	1
21.	Terminal 4 Gauge Cable	4 GA CABLE LUG	8
22.	25 Amp Fuse Holder	F-HLDR-25	1
23.	25 Amp Fuse	AGC-25	1
24.	Battery (582), Reference Only	PS-12150-NB	0
25.	Key Start Switch	25-6	1
26.	Regulator/Rectifier	264-870	1
27.	Starter Solenoid, With Electric Starter Kit	SOLENOID	0
28.	14 Gauge "Eye" Terminal	5/16 I TERM	1
29.	Electric Starter Kit, 582	MESK-3-582	1
30.	Female Connector	IP-7128	5
31.	Connector	02-09-1103	8
32.	1/4" Fuel Line, ft	FS-FL	12
33.	Capacitor	KSES0001	1
34.	14 Gauge "I" Terminal, 1/4"	14 GA 1/4 HOLE	1



RRR S-12 AIRRAIL ROTAX 912 INSTRUMENTS AND ELECTRICAL

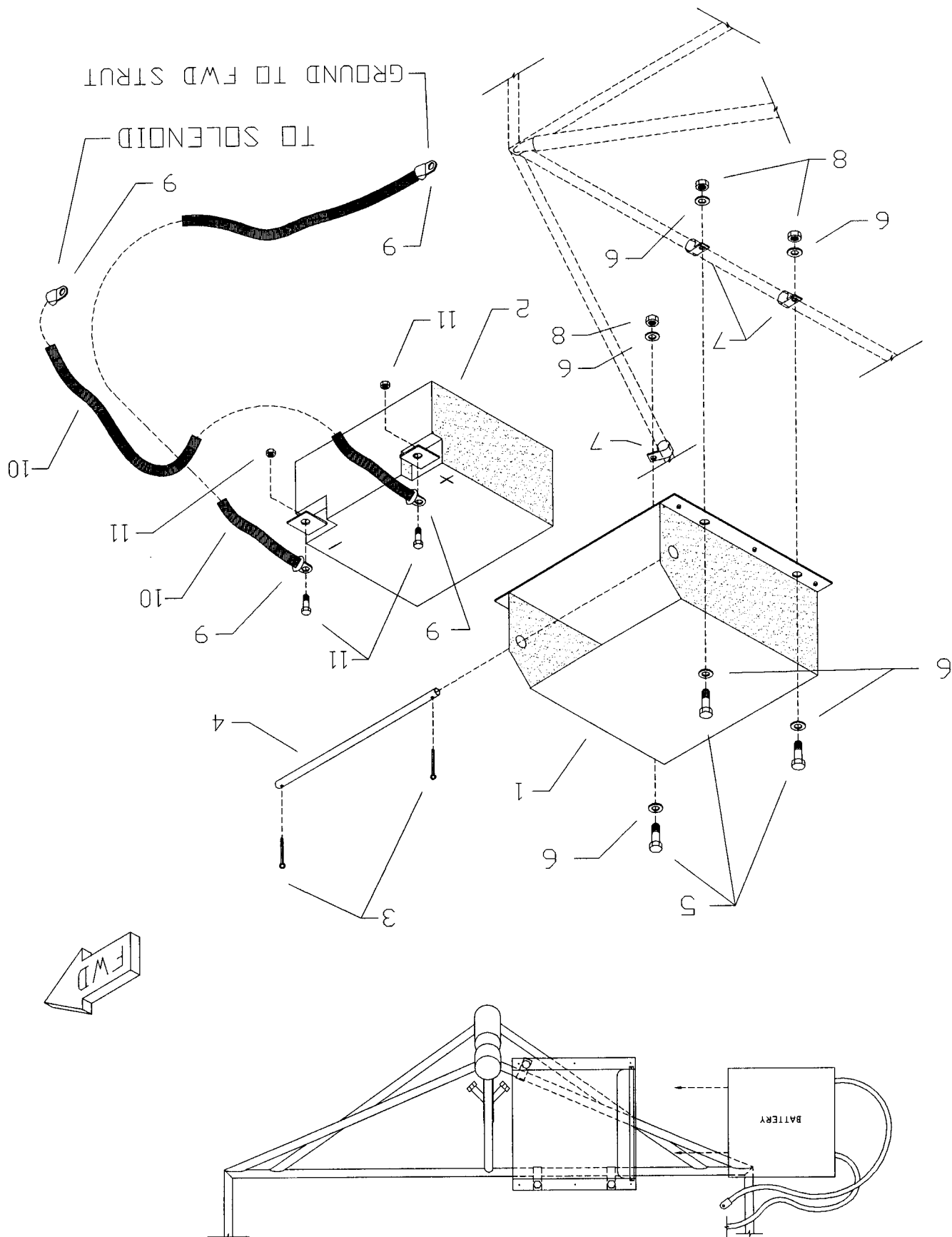
S-12 AIRAILE 912 INSTRUMENTS & ELECTRICAL

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Hour Meter	HR-M	1
2.	Vertical Speed (Optional)	VSI	1
3.	Altimeter (Optional)	AX1	1
3.	Altimeter (Optional)	AX2	1
3.	Altimeter (Optional)	AX3	1
4.	Airspeed, 0-120	ASI	1
5.	CHT/Oil Temperature Gauge (Electric)	OIL-T-EL	2
6.	Oil Pressure (Electric)	OIL-PRESS-ELEC	1
7.	RPM Gauge	RPM, 912	1
8.	Coolant Pressure Gauge, (Optional)	0-30 PSI	1
9.	12 Gauge "I" Terminal	12 GA 5/16 I TERM	1
10.	Water Temperature (Mechanical)	H2O TEMP	1
11.	Straight Withdrawl Fitting	8330	3
12.	Line Clamp, 5/16" I.D.	FS-LCL 5/16ID	5
13.	1/8" Straight Fitting, Brass	26-4-2	1
14.	Key Start Switch	25-6	1
15.	Ignition Switch	IP-IS	2
16.	14 Gauge Red Wire	14 GA WIRE/RED	2 ft
17.	Battery Cable	4 GA WIRE/BLACK	11 ft
18.	14 Gauge Red Wire	14 GA WIRE/RED	13 ft
19.	14 Gauge Red Wire	14 GA WIRE/RED	13 ft
20.	Coolant Temperature Line	COOL-TEMP-LINE	0
21.	Coolant Pressure Line (See 912 Cooling System)	COOL-PRESS-LINE	0
22.	14 Gauge Yellow Wire	14 GA WIRE/YELLOW	14 ft
23.	Oil Temperature Wire	14 GA WIRE/YELLOW	14 ft
24.	14 Gauge Black Wire	BLK FOR SWITCH GRD	2 ft
25.	14 Gauge Black Wire	BLK 2 @ 13	26 ft
26.	In Line Fuse Holder, 25 Amp	F-HLDR-25	1
27.	Bullet Connector	WITH ENGINE	0
28.	14 Gauge Green Wire	14 GA WIRE/GREEN	2 ft
29.	14 Gauge Green Wire	14 GA WIRE/GREEN	13 ft
30.	14 Gauge "Eye" Terminal	5/16 I TERM	1
31.	25 Amp Fuse	AGC-25	1
32.	40 Amp Fuse	AGC-40	1
33.	Solenoid	EG-SOLENOID	1
34.	1/4" Fuel Line	FS-FL	12 ft
35.	14 Gauge Splice	7132	1
36.	4 Gauge "I" Terminal	CABLE LUG	8
37.	Line Tee	8338	1
38.	Line Clamp, 3/8"	FS-LCL 3/8	3
39.	Battery Cable	4 GA WIRE/BLACK	1 ft
40.	14 Gauge Black Wire	14 GA WIRE/BLACK	2 ft
41.	550B Spade Terminal	550B	5
42.	Ignition Box (Comes With Engine)	EG-ING-BOX	0

S-12 AIRAILE 912 INSTRUMENTS & ELECTRICAL

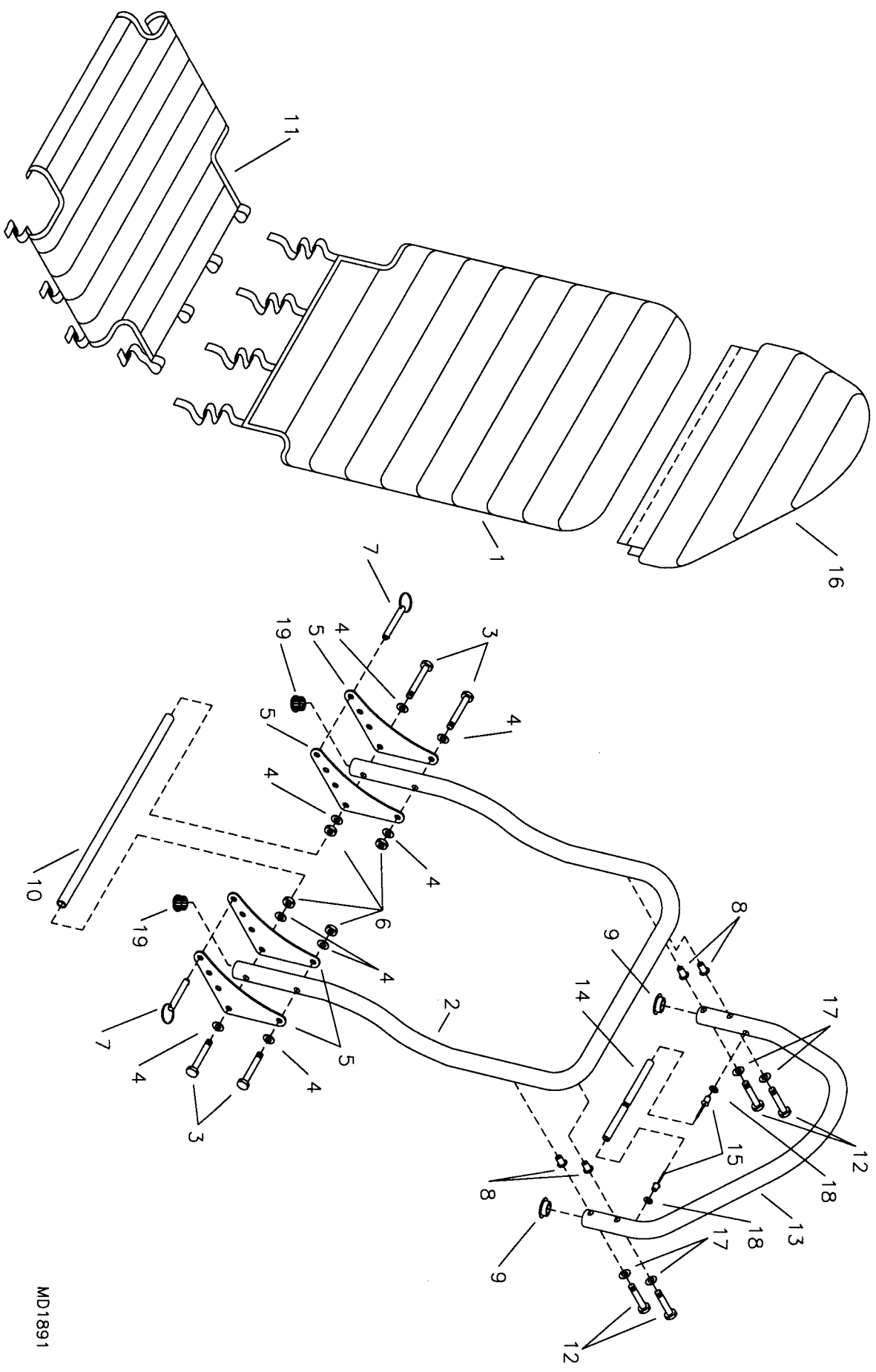
#	DESCRIPTION	PART NUMBER	QUANTITY
43.	14 Gauge "I" Terminal, Blue, 3/16"	IP-7102	14
44.	2 Plex 20 Gauge for RPM	62181-DELL	12 ft
45.	Battery Cable	4 GA WIRE/BLACK	2 ft
46.	Battery Cable	4 GA WIRE/BLACK	2 ft
47.	Plastic Connector	WITH ENGINE	0
48.	14 Gauge Female Terminal, Blue	IP-7128	13
49.	Battery, 912	PS-12260-NB	1
50.	Regulator Rectifier (Comes With Engine)	EG-REG-RECT	1
51.	In Line Fuse Holder, 40 Amp	F-HLDR-40	1
52.	14 Gauge White Wire	14 GA WIRE/WHITE	16 ft
53.	10-12 Gauge Splice	423005	6

007C-1



S-12 AIRAILE BATTERY BOX INSTALLATION

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Battery Box, 582	(582) BAT-BOX	1
1.	Battery Box, 912	(912) BAT-BOX	1
2.	Battery, 582	PS-12150-NB	1
2.	Battery, 912	PS-12260-NB	1
3.	Small Cotter Pin	MS24665-134	2
4.	Battery Bar, 582	(582) BAT-BAR	1
4.	Battery Bar, 912	(912) BAT-BAR	1
5.	3/16" Bolt	AN3-3A	3
6.	3/16" Thick Washer	AN960-10	6
7.	1/2" Cushioned Clamp	MS21919-DG8	3
8.	3/16" Shear Nut	AN364-1032A	3
9.	4 Gauge Eye Terminal	REFERENCE ONLY	0
10.	Battery Cable	REFERENCE ONLY	0
11.	Nut and Bolt Hardware	EG-NUT & BOLT	0



RRR S-12 AIRRAILE
SEAT/HEADREST ASSEMBLY

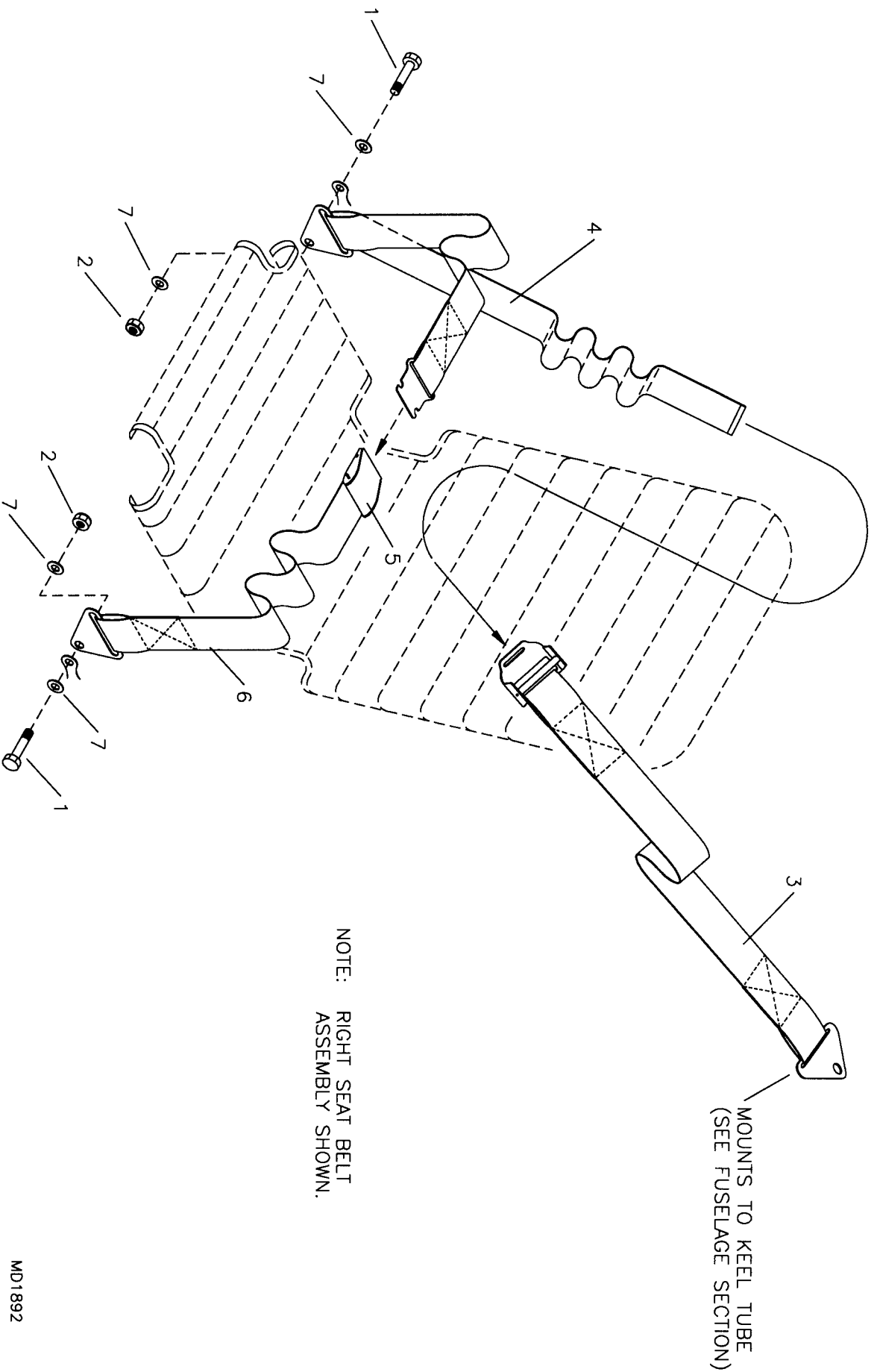
MD1891

S-12 AIRAILE SEAT/HEADREST

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Seat Back Cover	ST-SBC	2
2.	Seat Back Frame	ST-SBF	2
3.	3/16" Bolt	AN3-14A	8
4.	3/16" Thin Washer	AN960-10L	16
5.	Seat Back Gusset	ST-GUS	8
6.	3/16" Shear Nut	AN364-1032A	8
7.	1/4" Quick Pin	PIN 1/4X1.2	4
8.	Rivet Nut**	MS27130-A25K	8
9.	1" End Cap**	1 CAP	4
10.	Seat Back Lower Tube*	ST-SBLT	2
11.	Seat Bottom, LH	ST-SBOT-LH	1
11.	Seat Bottom, RH	ST-SBOT-RH	1
12.	3/16" Bolt**	AN3-13A	8
13.	Headrest Frame**	ST-HFR	2
14.	Headrest Internal Brace* **	ST-HRIB	2
15.	3/16" Aluminum Pop Rivet**	12APR1/4	4
16.	Headrest Cover**	ST-HRC	2
17.	3/16" Thin Washer**	AN960-10L	8
18.	3/16" Thick Washer**	AN960-10	4
19.	7/8" End Cap	CS-EC	4

*Fabricate from 1/2" aluminum tube.

**The headrest is an optional item.

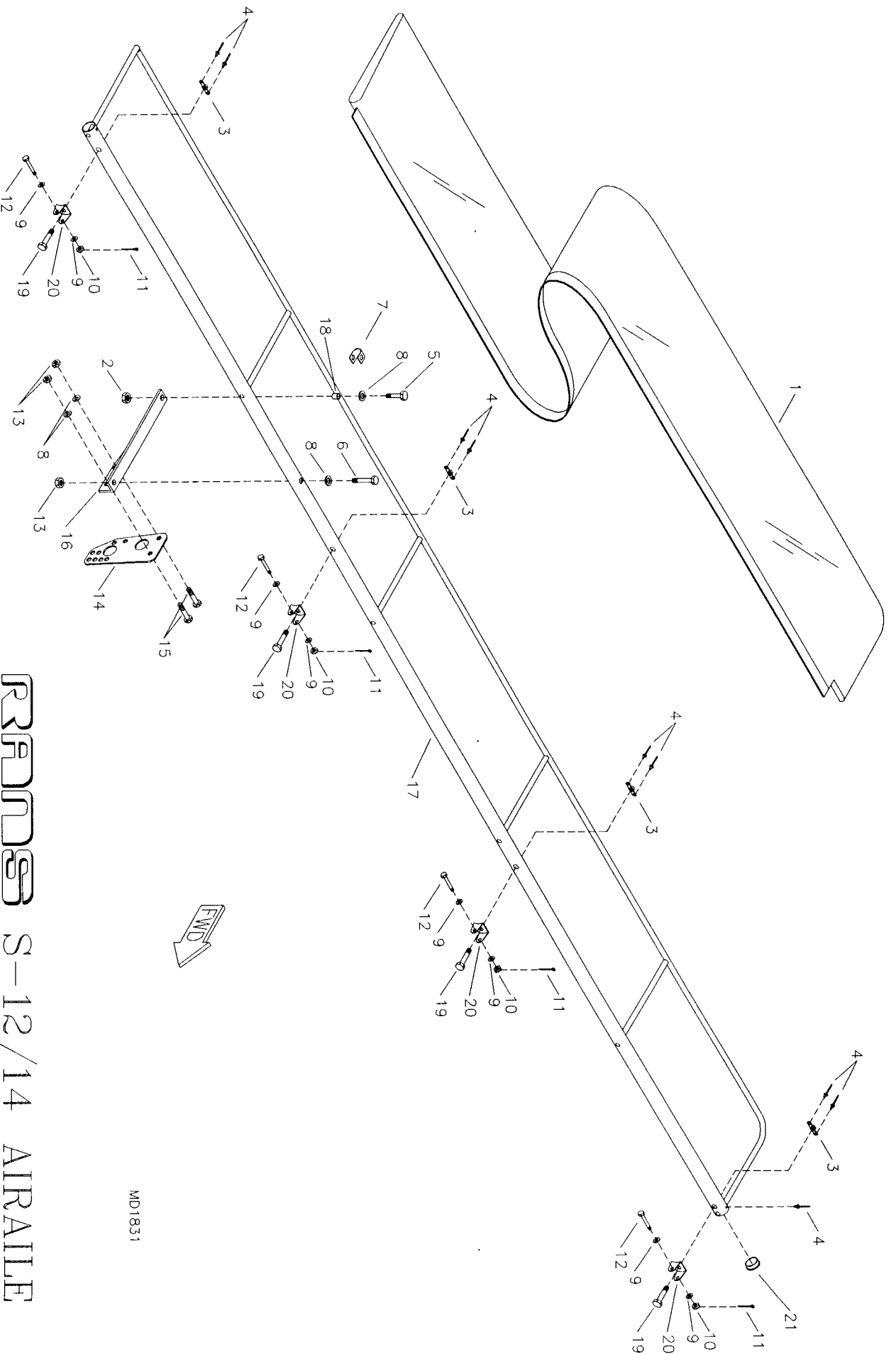


S-12 AIRFRAME SEAT BELT ASSEMBLY

MD1892

S-12 AIRAILE SEAT BELT SYSTEM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/4" Bolt	AN4-5A	4
2.	1/4" Shear Nut	AN364-428A	4
3.	Shoulder Belt	ST-SHLD-B	2
4.	Shoulder Adjust, Lap Clip	ST-SHLD-ADJ-LAP-C	2
5.	Belt Buckle	ST-BUC	2
6.	Lap Belt Adjust Side	ST-LB-ADJ	2
7.	1/4" Thick Washer	AN960-416	8



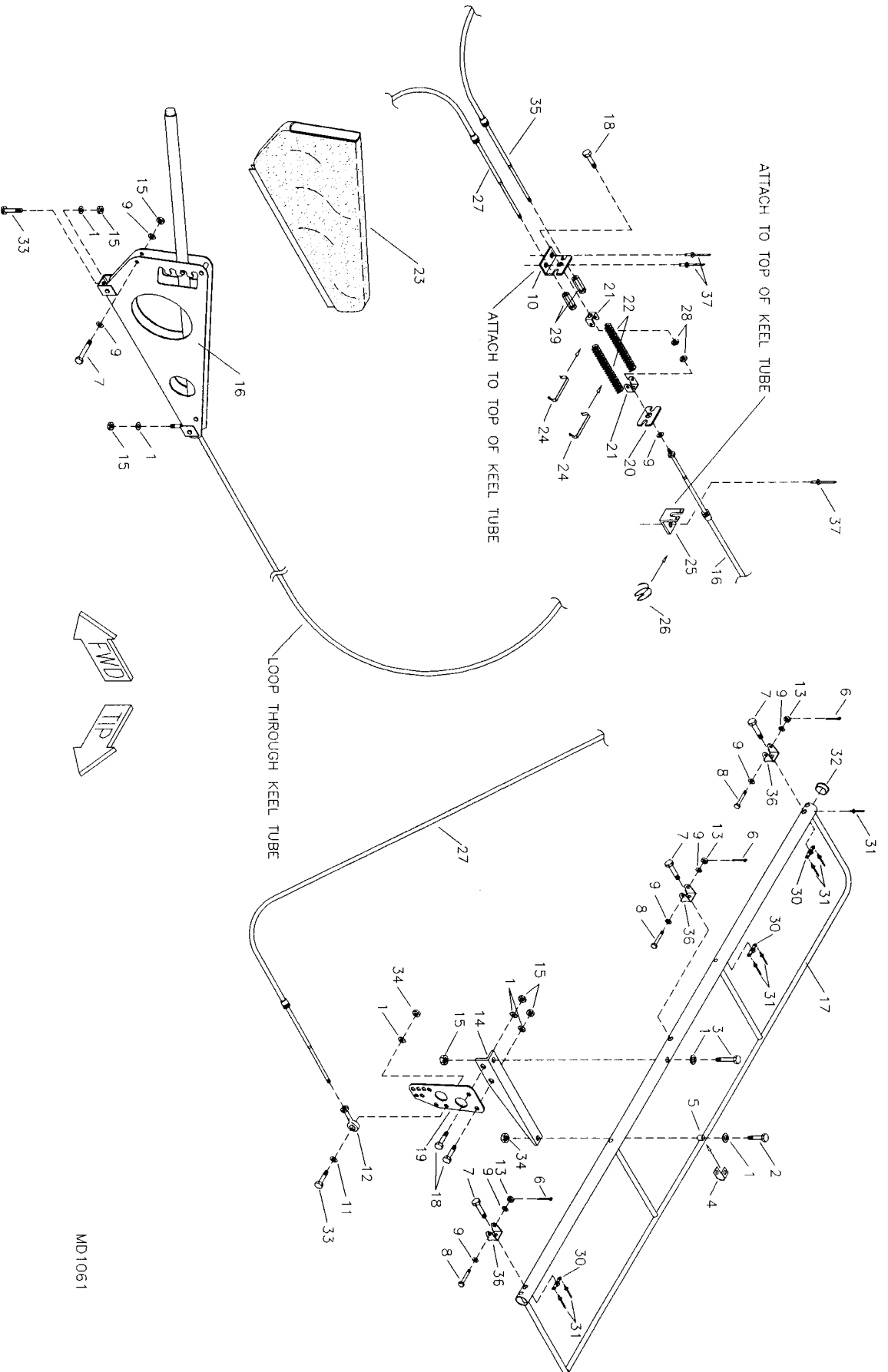
RRMDS S-12/14 AIRAILE AILERON ASSEMBLY

MD1831

S-12 AIRAILE AILERON

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Aileron Cover, Type 2	SEE WING COVERING	0
2.	3/16" Shear Acorn Nut	22NKM02	2
3.	3/16" Nut Plate	K-1000-3	8
4.	3/32" Aluminum Pop Rivet	40APR1/8	18
5.	3/16" Bolt	AN3-10A	2
6.	3/16" Bolt	AN3-14A	2
7.	Aileron Clip	W-A-CLIP	2
8.	3/16" Thin Washer	AN960-10L	4
9.	3/16" Thick Washer	AN960-10	16
10.	3/16" Castle Nut	AN310-3	8
11.	Small Cotter Pin	MS24665-134	6
12.	3/16" Bolt	AN3-15	8
13.	3/16" Shear Nut	AN364-1032A	8
14.	Unihorn	UNI-HORN	2
15.	3/16" Bolt	AN3-4A	4
16.	Flap/Aileron Horn Attach Angle	S6-W-AHAA-L	1
16.	Flap/Aileron Horn Attach Angle	S6-W-AHAA-R	1
17.	Aileron Frame	S6-W-AF	2
18.	Spacer Bushing, 1/4" X 1/2"	SB-1/4X1/2	2
19.	3/16" Bolt	AN3-13A	6
20.	Stainless Steel Hinge	W-HB	8
21.	1" End Cap	1 CAP	2

*Fabricate. See sheet in manual.



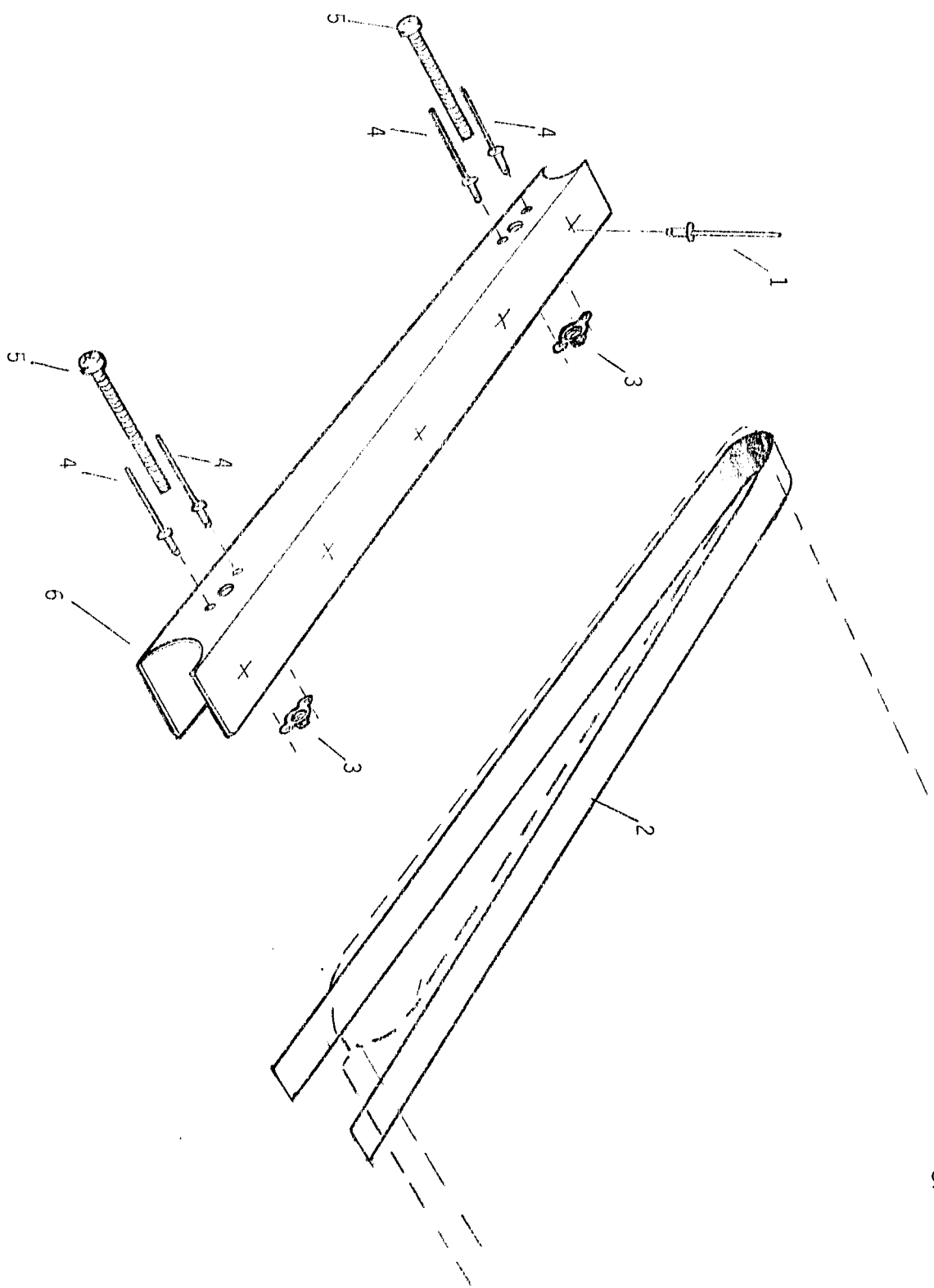
MD1061

RRN S-12/14 AIRAILE FLAP SYSTEM ASSEMBLY

S-12 AIRAILE FLAP SYSTEM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Thin Washer	AN960-10L	17
2.	3/16" Bolt	AN3-10A	2
3.	3/16" Bolt	AN3-14A	2
4.	Aileron Clip	W-A-CLIP	2
5.	Spacer Bushing, 1/4" X 1/2"	SB-1/4X1/2	2
6.	Small Cotter Pin	MS24665-134	6
7.	3/16" Bolt	AN3-13A	9
8.	3/16" Bolt	AN3-15	6
9.	3/16" Thick Washer	AN960-10	20
10.	Flap Dual Teleflex Retainer, Forward S-12 Style	FL-DTR-FWD	1
11.	3/16" Plastic Washer	PW-3	4
12.	Female Rod End	NF-3	2
13.	3/16" Castle Nut	AN310-3	6
14.	Flap/Aileron Horn Attach Angle	S6-W-AHAA-L	1
14.	Flap/Aileron Horn Attach Angle	S6-W-AHAA-R	1
15.	3/16" Shear Nut	AN364-1032A	12
16.	Flap Lever Assembly (8' Teleflex)	FL-FLAP-M	1
17.	Flap Frame	S12-W-FF-151-T2	2
18.	3/16" Bolt	AN3-4A	5
19.	Unihorn	UNI-HORN	2
20.	Flap Dual Teleflex Retainer AFT	FL-DTR-AFT	1
21.	Shackle	RL-205-T	2
22.	Flap Return Spring	FL-FLAP-SPR	2
23.	Flap Lever Cover	FL-COV	1
24.	Flap Teleflex Clip	FL-CLIP	2
25.	Teleflex Retainer	W-TEL-R	1
26.	Safety Wire	SAFETY WIRE	1
27.	Flap Teleflex, 8', LH	W-F-TELFX-8'	1
28.	3/16" Tensile Nut	AN365-1032A	2
29.	Retainer Nut	FL-NUT	2
30.	3/16" Nut Plate	K-1000-3	8
31.	3/32" Aluminum Pop Rivet	40APR1/8	18
32.	1" End Cap	1 CAP	2
33.	3/16" Bolt	AN3-7A	3
34.	3/16" Shear Acorn Nut	22NKM02	4
35.	Flap Teleflex, 8', RH	W-F-TELFX-8'	1
36.	Stainless Steel Hinge	W-HB	6
37.	3/16" Stainless Steel Pop Rivet	12SSPR1/4	3

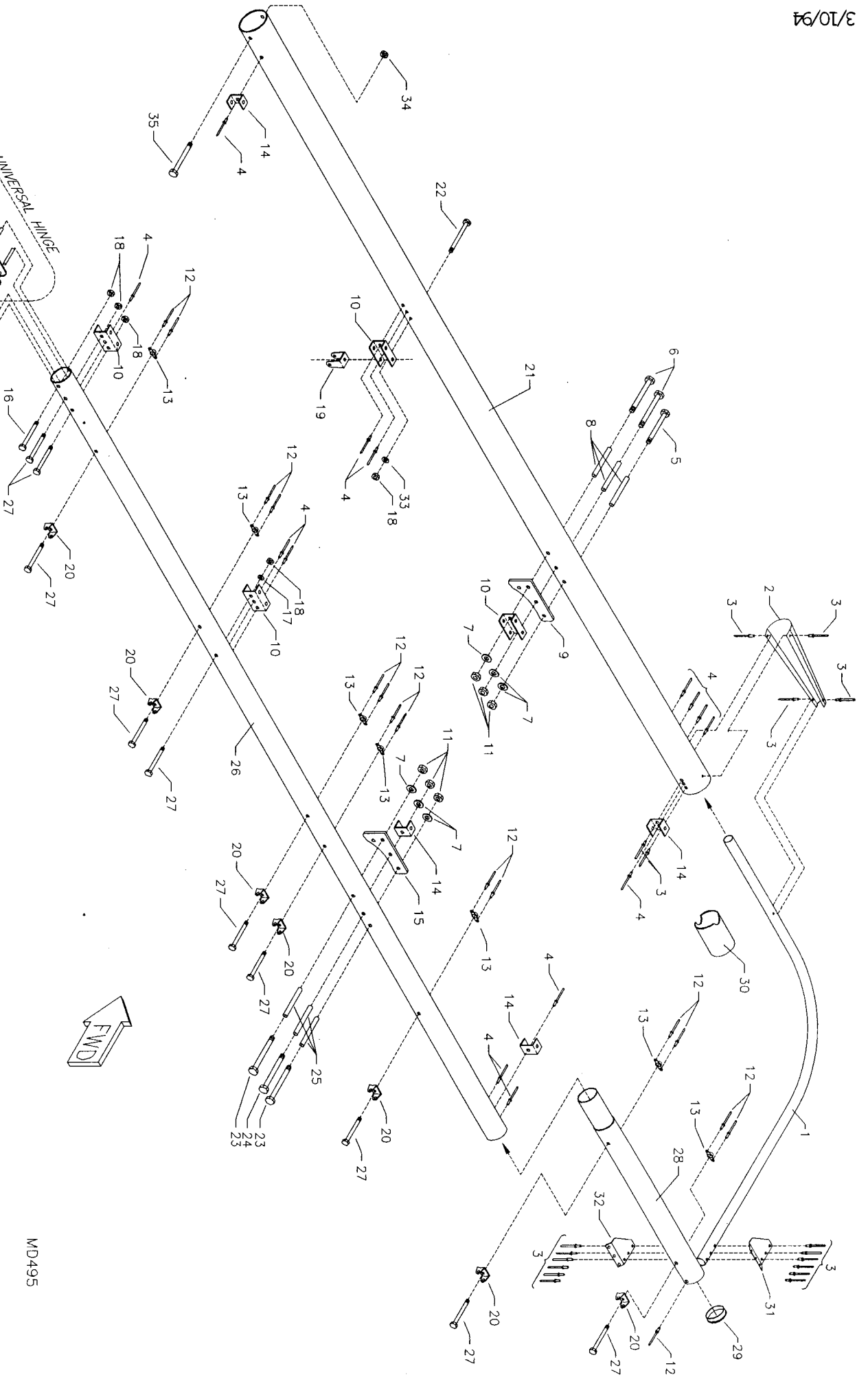
*Fabricate from 1/4" X .035 aluminum tubing.



**AILERON AND FLAP TENSION RIB
MODELS: S-6ES, S-12, AND S-14**

S-12 AIRAILE AILERON & FLAP TENSION RIB

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1/8" Aluminum Pop Rivet	30APR1/8	40
2.	Aluminum Strip, 18" X 5/8" X .020	TR-STRIP-18	4
3.	3/16" Nut Plate	K-1000-3	8
4.	3/32" Aluminum Pop Rivet	40APR1/8	16
5.	Aileron Flap Tension Screw	10/32X2 1/2 SSPAN	8
6.	Aileron Flap Tension Rib	AF-TR	4



RRM S-12 AIRRAILE LEADING & TRAILING EDGE SPARS

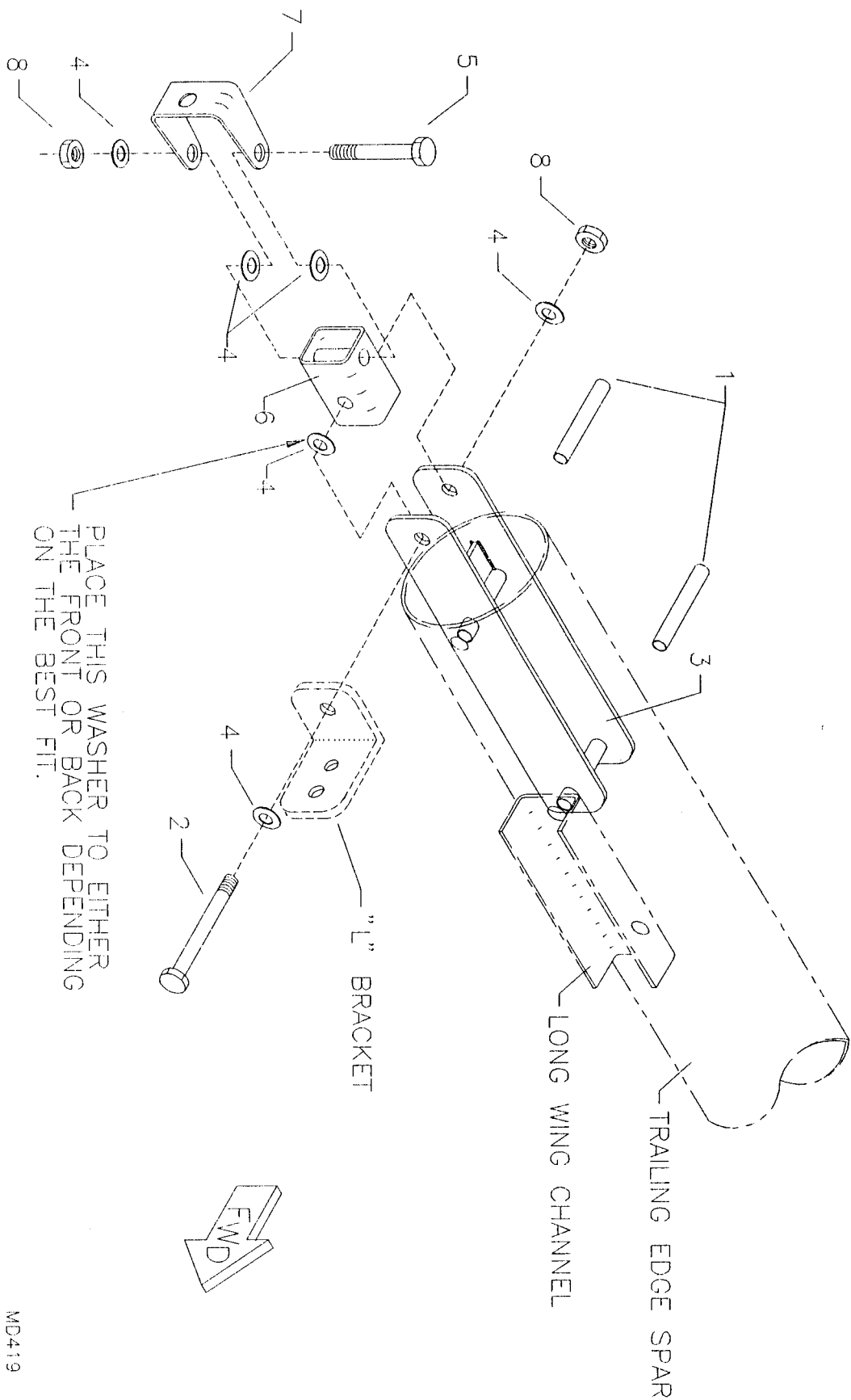
MD495

S-12 AIRAILE LEADING & TRAILING EDGE SPARS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Tip Bow	W-TIP	2
2.	Tip Wrap	W-TW-F	2
3.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	36
4.	3/16" Stainless Steel Pop Rivet	12SSPR1/4	24
5.	1/4" Bolt*	AN4-35ALP	2
6.	1/4" Bolt*	AN4-36ALP	4
7.	1/4" Thin Washer	AN960-416L	12
8.	Spacer Bushing, 3/8" X 3"	SB-3/8X3	6
9.	FWD Strut Plate	W-SAP-LE	2
10.	Long Wing Channel	W-WCL	8
11.	1/4" Shear Nut	AN364-428A	12
12.	3/32" Aluminum Pop Rivet	40APR1/8	30
13.	3/16" Nut Plate	K-1000-3	14
14.	Horizontal Stabilizer Attach Bracket	S2-SAB	8
15.	AFT Strut Plate	W-SAP-TE	2
16.	3/16" Bolt	AN3-22A	2
17.	3/16" Thin Washer	AN960-10L	2
18.	3/16" Tensile Nut	AN365-1032A	10
19.	Jury Strut Bracket**	JS-BK	2
20.	Stainless Steel Hinge	W-HB	14
21.	Leading Edge Spar	W-LES	2
22.	3/16" Bolt*	AN3-34A/LP	2
23.	1/4" Bolt*	AN4-25ALP	4
24.	1/4" Bolt*	AN4-26ALP	2
25.	Spacer Bushing, 3/8" X 2"	SB-3/8X2	6
26.	Trailing Edge Spar	W-TES-ES	2
27.	3/16" Bolt	AN3-23A	20
28.	Trailing Edge Spar Tip	W-TES-TIP	2
29.	2" End Cap	EC-10	2
30.	Tip Bow Marking Tool	W-T-MT	1
31.	Tip Gusset Top	W-TG-T	2
32.	Tip Gusset Bottom	W-TG-B	2
33.	3/16" Thick Washer	AN960-10	2
34.	1/4" Tensile Nut	AN365-428A	0
35.	1/4" Bolt	AN4-33A	0

*These bolts have a special thin head painted flat black.
They must be used to allow the wing skins to slide on.

**See S-12 Airaile jury struts, install at this time.



MD419

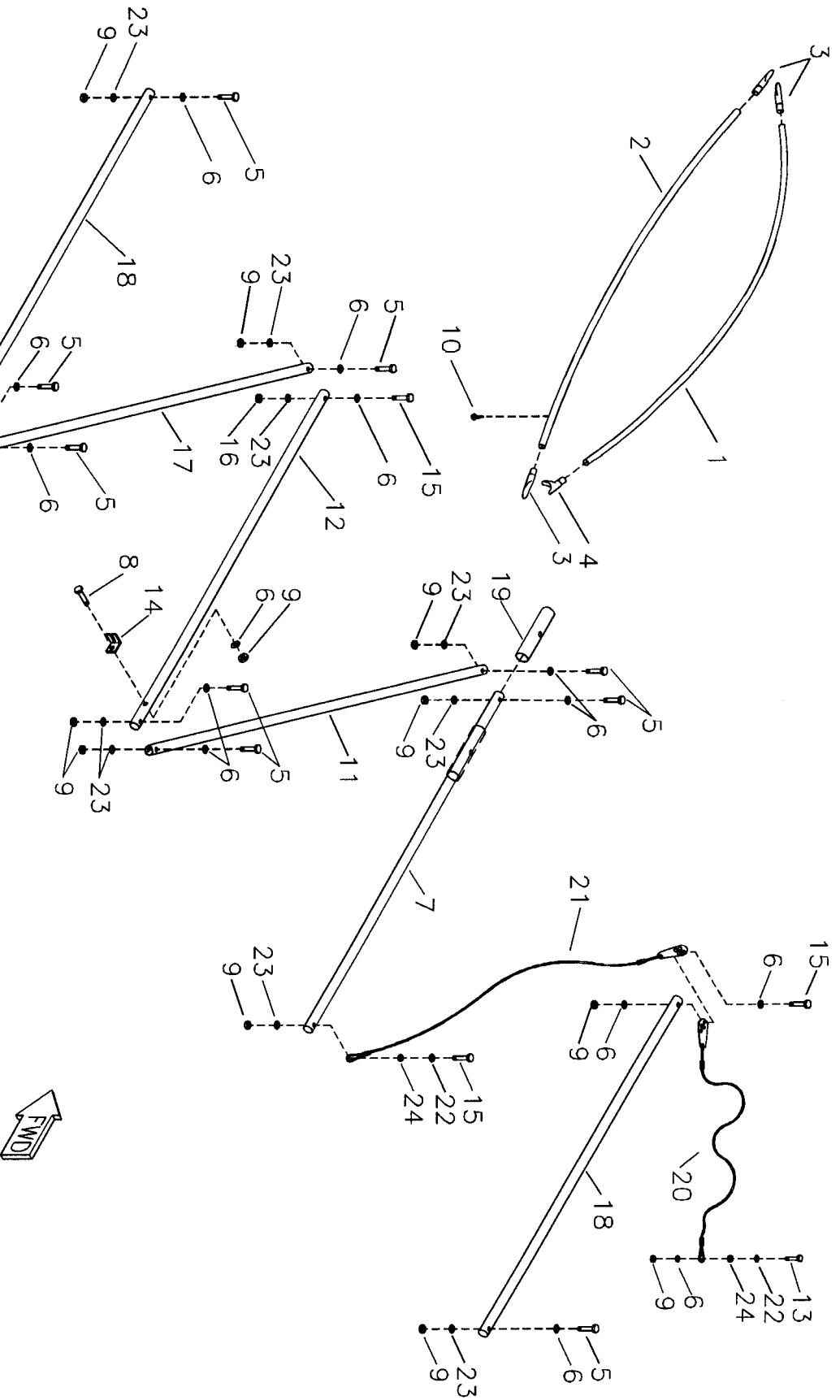
S-12 AIRAILLE **WING: UNIVERSAL HINGE**

S-12 AIRAILE UNIVERSAL HINGE

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Spacer Bushing**	SB-1/4X1 7/8	4
2.	1/4" Bolt	AN4-17A	2
3.	Trailing Edge Spar Root Fitting	W-TES-RF	2
4.	1/4" Thick Washer	AN960-416	12
5.	1/4" Bolt	AN4-16A	2
6.	Hinge Cube	W-H-CUBE	2
7.	Stainless Steel "U" Bracket	SUF-118	2
8.	1/4" Shear Nut	AN364-428A	4

*Fabricate (4) bushings 1/4" X .028 X 1 7/8".

HINT: Drill bushing #11 I.D. before cutting to length.



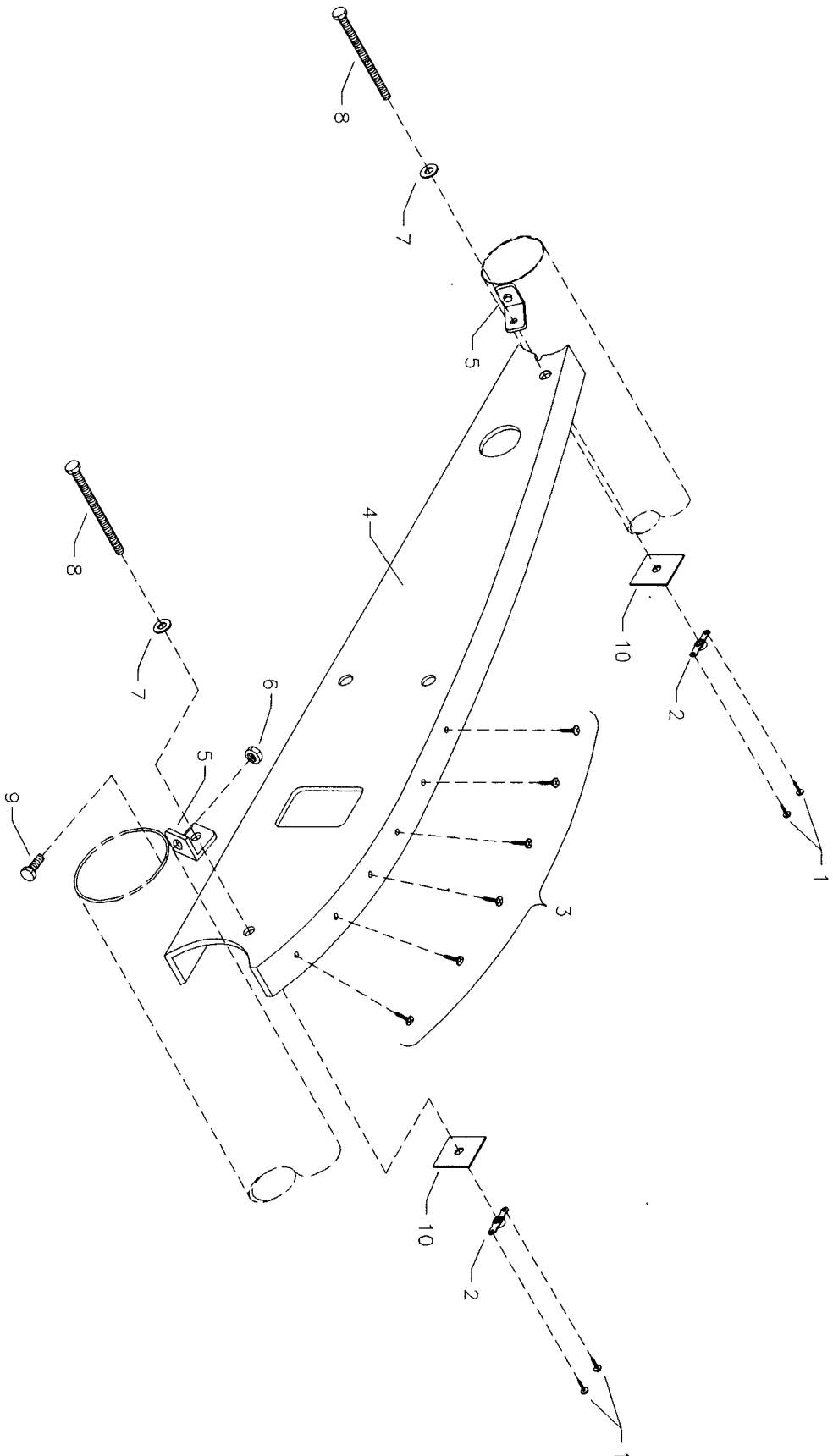
MD1465

REDUCED S-12 AIRCRAFT WING INTERNAL BRACING TUBES

S-12 AIRAILE WING INTERNAL BRACING TUBES

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Top Rib	W-T-RIB-151	18
2.	Bottom Rib	W-B-RIB-151	18
3.	Rib Tip	RIB-TIP	54
4.	Contour Fitting	2-CON	18
5.	3/16" Bolt	AN3-15A	18
6.	3/16" Thin Washer	AN960-10L	28
7.	Middle Compression Tube	W-MC-151	2
8.	3/16" Bolt	AN3-14A	2
9.	3/16" Shear Nut	AN364-1032A	26
10.	Small Pan Head Screw	PHS-4X1/4	18
11.	Drag Brace	W-DB-151	2
12.	Flap Compression Tube	W-FCT-151	2
13.	3/16" Bolt	AN3-4A	2
14.	Teleflex Retainer	W-TEL-R	2
15.	3/16" Bolt	AN3-16A	6
16.	3/16" Tensile Nut	AN365-1032A	2
17.	Drag Brace Root	W-DBR-151	2
18.	Outer Inner Compression Tube	W-IO-151	4
19.	Compression Tube Doubler	SEE CONTROL STICK	0
20.	Wing Cable, 61	W-WC-59	2
21.	Wing Cable, 51	W-WC-51	2
22.	3/16" Plastic Washer	PW-3	4
23.	3/16" Thick Washer	AN960-10	22
24.	Spacer Bushing, 1/4" X .028 X 3/16"	SB-1/4X028	4

*Fabricate from raw stock.

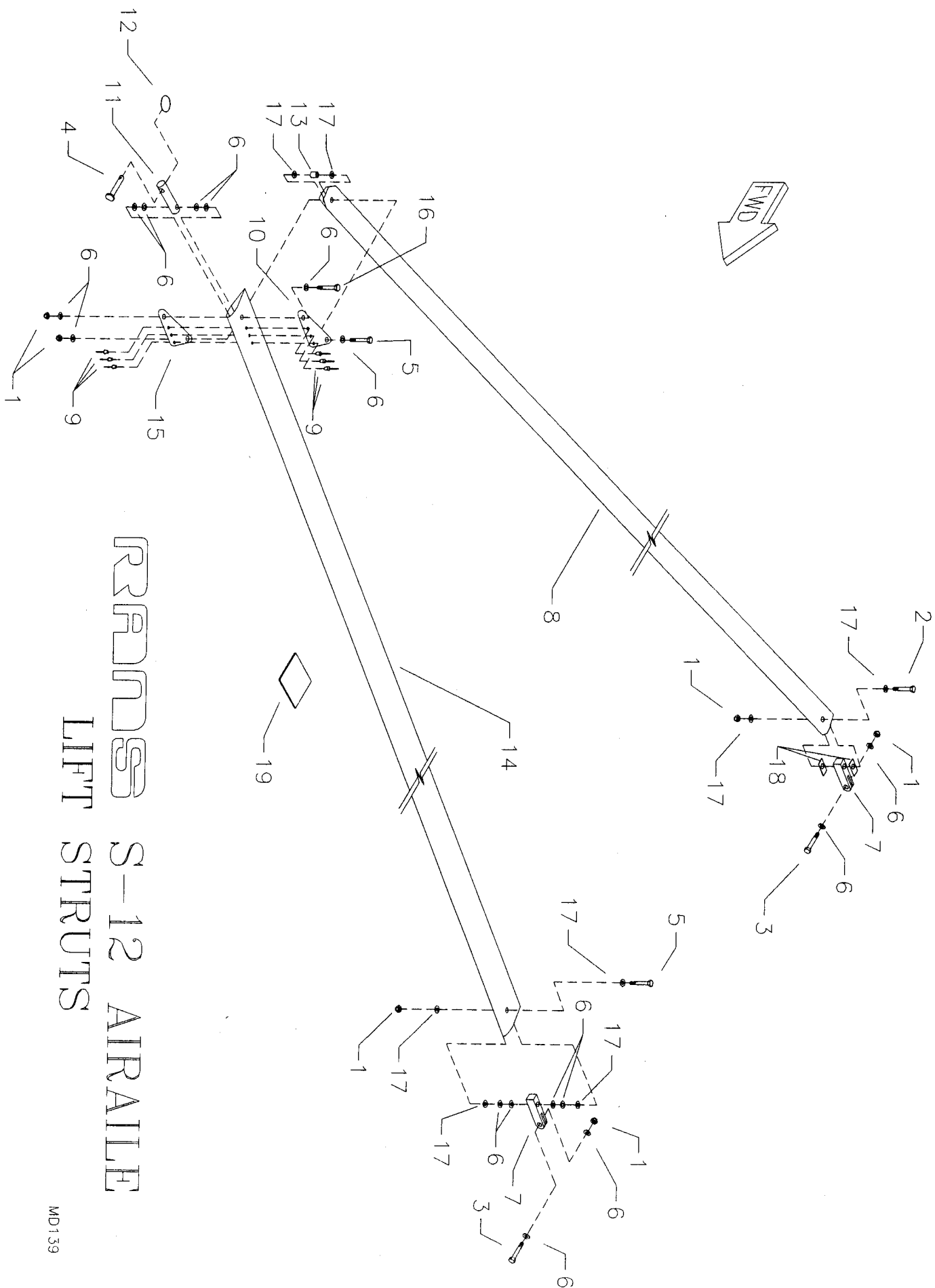


R3M S-12 AIRAIL ROOT RIB TENSION SYSTEM

S-12 AIRAILE ROOT RIB

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Small Pan Head Screw	PHS-4X1/4	8
2.	1/4" Nut Plate	MS21047-04	4
3.	#8 Pan Head Screw, Stainless Steel	8X1/2-PHS	92
4.	Root Rib, LH	W-RR-COMP-LH	1
4.	Root Rib, RH	W-RR-COMP-RH	1
5.	"L" Bracket	W-RR-LB	4
6.	3/16" Shear Nut	AN364-1032A	2
7.	1/4" Thin Washer	AN960-416L	4
8.	1/4" Bolt*	AN4-27T	4
9.	3/16" Bolt	AN3-5A	2
10.	Backing Plate	W-RR-BP	4

*This bolt is nearly threaded it's whole length.



RRMS S-12 AIRAILE LIFT STRUTS

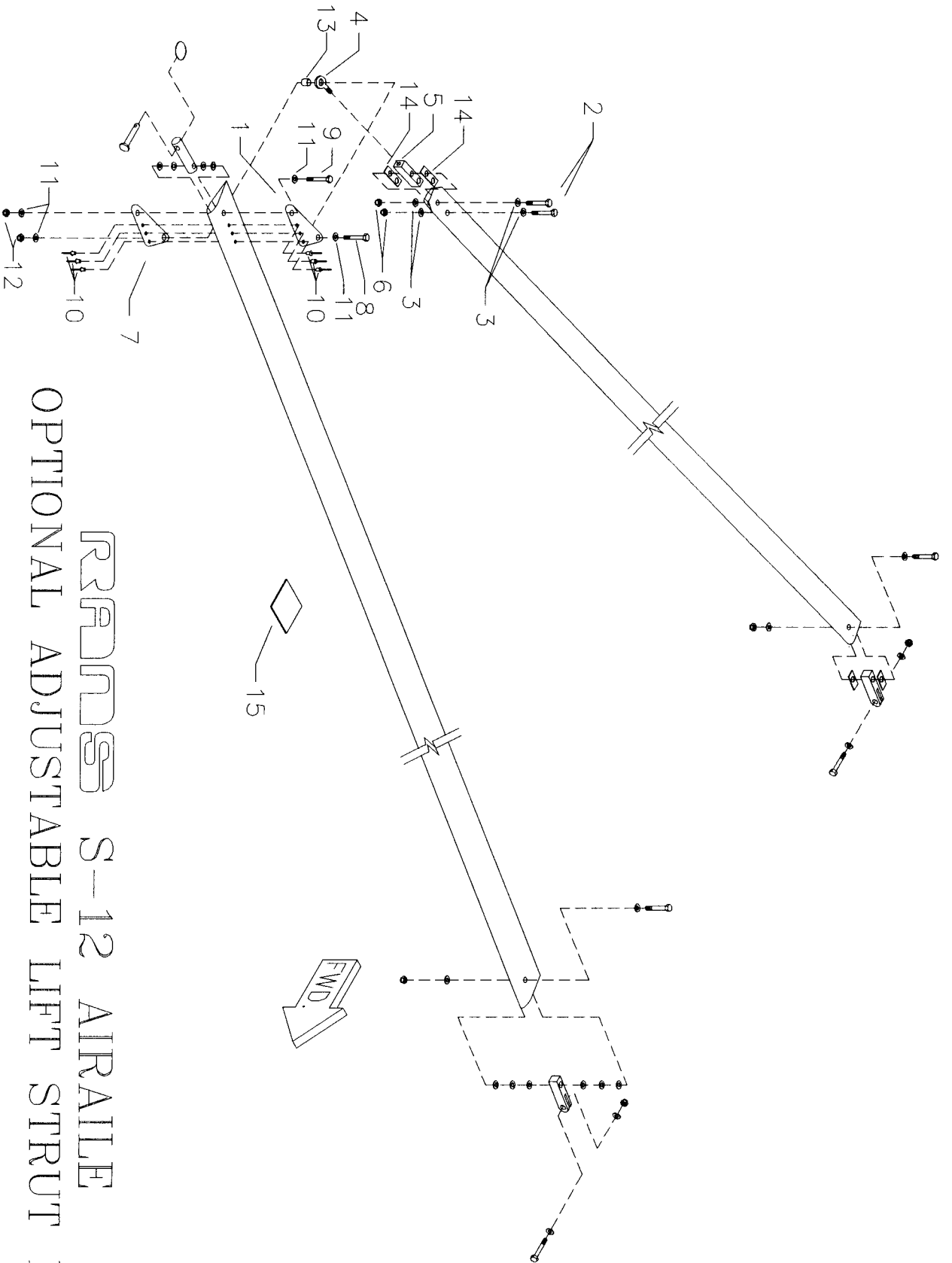
MD139

S-12 AIRAILE LIFT STRUTS

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	5/16" Shear Nut	AN364-524A	12
2.	5/16" Bolt	AN5-13A	2
3.	5/16" Bolt	AN5-12A	4
4.	5/16" Clevis Pin	MS20392-4C33	2
5.	5/16" Bolt	AN5-15A	4
6.	5/16" Thick Washer	AN960-516	32
7.	AFT Upper Lift Strut Connector	LS-ACU-2	4
8.	AFT Lift Strut	KPWI0067	2
9.	3/16" Stainless Steel Pop Rivet	12SSPR1/4	12
10.	AFT Lift Strut Gussets	W-ALS-G-2A	2
11.	Round Connector, LH	LS-RC-LH	1
11.	Round Connector, RH	LS-RC-RH	1
12.	Loc Ring	RL-27 5/16	2
13.	Anti-Crush Bushing	W-ANTI-CB	2
14.	FWD Lift Struts	KPWI0066	2
15.	AFT Lift Strut Gussets	W-ALS-G-2B	2
16.	5/16" Bolt	AN5-17A	2
17.	5/16" Thin Washer	AN960-516L	16
18.	Shim*	UNV-SHIM	4
19.	Thin Lexan Sheet	LX3X3	1

*Make shim from .020 raw stock.

NOTE: The 3" X 3" lexan sheet is used to make hole location templates.



REPAIR S-12 AIRRAIL LIFT STRUT KIT

MD140

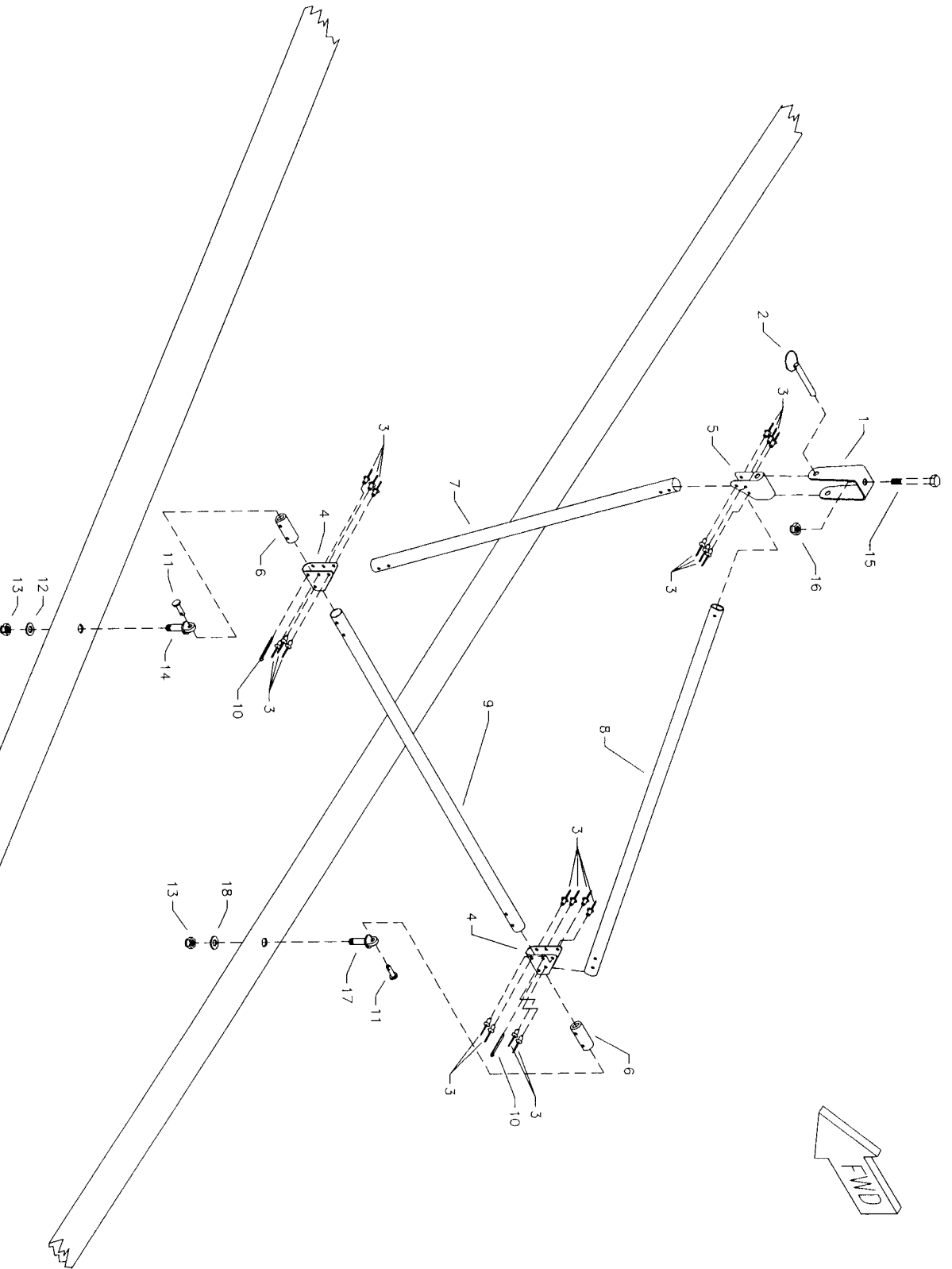
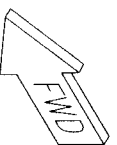
S-12 AIRAILE OPTIONAL ADJUSTABLE LIFT STRUT KIT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Gusset Plate	116-S-GUSS-A	2
2.	3/16" Bolt	AN3-13A	4
3.	3/16" Thick Washer	AN960-10	8
4.	Rod End	3/8X24 ROD END	2
5.	Adjuster End	S-AE-3/4	2
6.	3/16" Shear Acorn Nut	22NKM02	4
7.	Gusset Plate	116-S-GUSS-B	2
8.	5/16" Bolt	AN5-11A	2
9.	5/16" Bolt	AN5-17A	2
10.	3/16" Stainless Steel Pop Rivet	12SSPR1/4	12
11.	5/16" Thick Washer	AN960C-516	8
12.	5/16" Shear Nut	AN364-524	4
13.	3/8" Bushing*	SB-3/8X035	2
14.	Shim**	UNV-SHIM	4
15.	Thin Lexan Sheet (Reference)	LX3X3	0

*Fabricate from raw stock.

**Make from .020 raw stock.

NOTE: The 3" X 3" lexan sheet is used to make hole location templates.



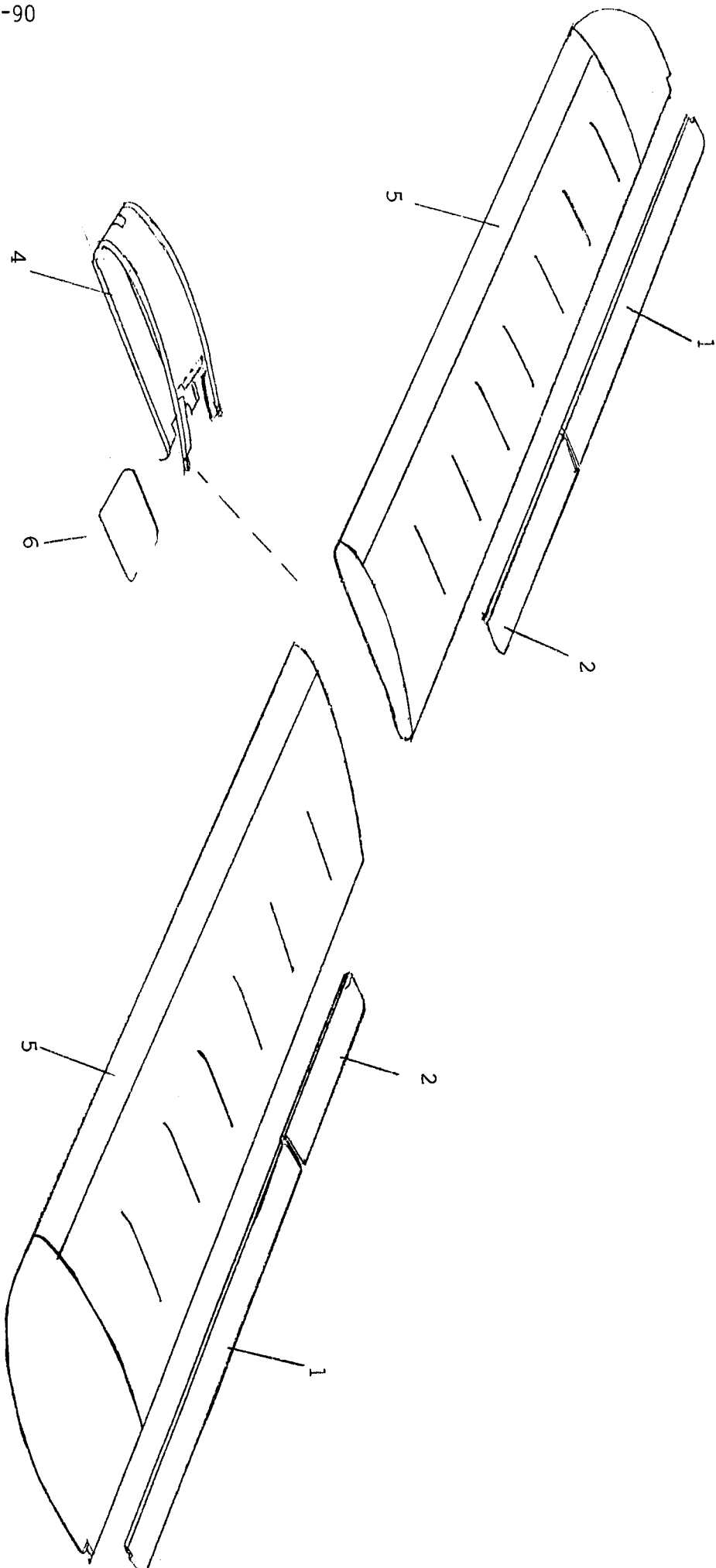
MD136

REFUND S-12 AIRRAILE JURY STRUTS

S-12 AIRAILE JURY STRUT

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Jury Strut Bracket (REF)	JS-BK	0
2.	Retaining Pin	3/16X1.2SSBP	2
3.	1/8" Stainless Steel Pop Rivet	30SSPR1/8	36
4.	Notched Gusset	JS-JGN	4
5.	Gusset	JS-JGNW	2
6.	Drilled Bushing Aluminum Insert	JS-BUC-B	4
7.	Forward Jury Strut*	JS-FWD-151-18	2
8.	Diagonal Jury Strut*	JS-DIA-151-32	2
9.	Cross Strut*	JS-C-151-22	2
10.	Small Cotter Pin	MS24665-134	4
11.	Clevis Pin	MS20392-2C17	4
12.	1/4" Thin Washer	AN960-416L	4
13.	1/4" Tensile Acorn Nut	42NKE-048	4
14.	Eye Bolt	AN43B-15A	2
15.	3/16" Bolt (REF)	AN3-16A	0
16.	3/16" Tensile Nut (REF)	AN365-1032A	0
17.	Eye Bolt	AN43B-14A	2
18.	1/4" Thick Washer	AN960-416	2

*Builder must fabricate these from 1/2" X .035 X 144 raw stock provided.



S-12 AIRRAILE WING, ALLERONS, FLAPS & CENTER COVER

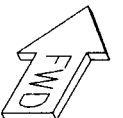
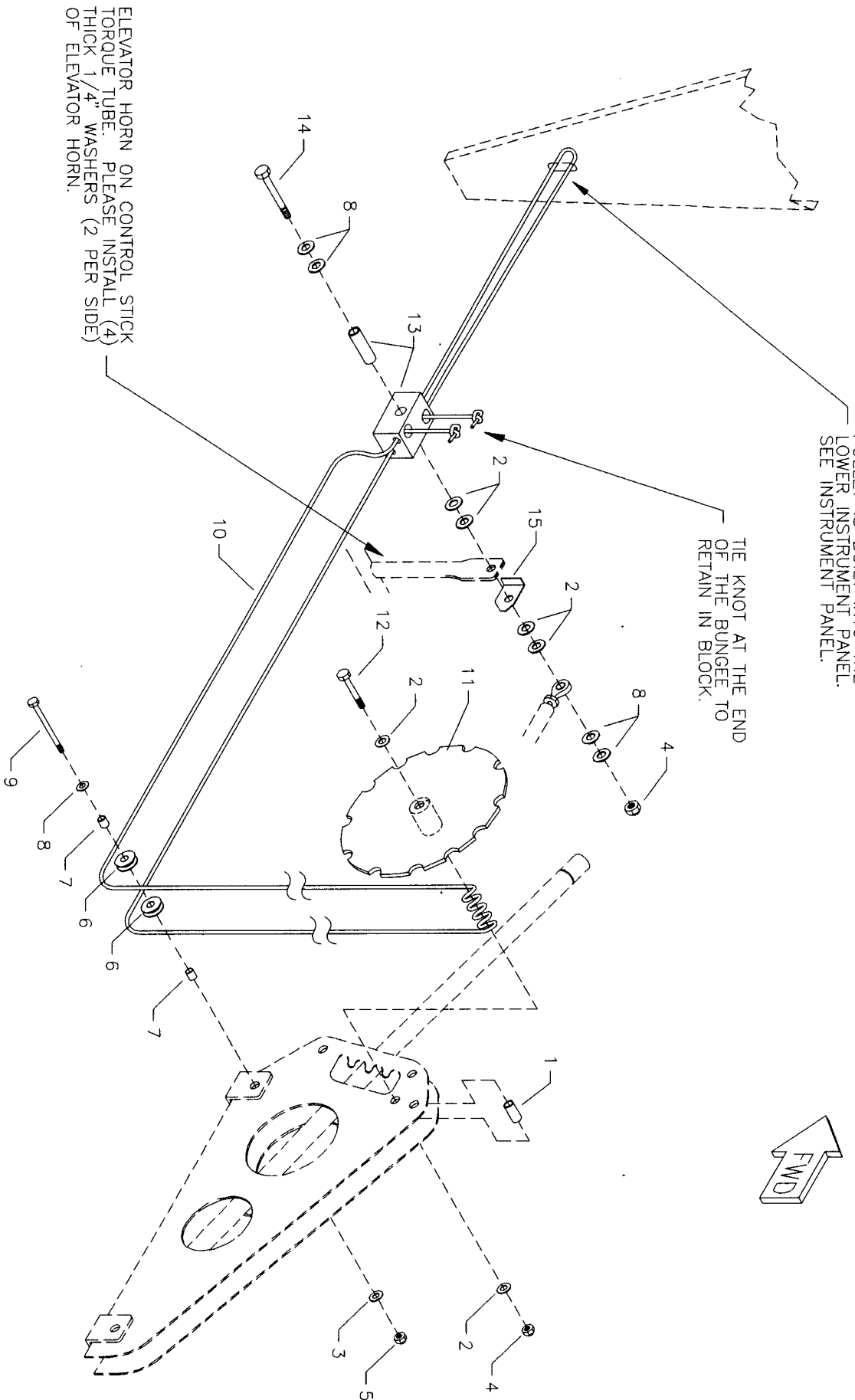
S-12 AIRAILE WING, AILERONS, FLAPS & CENTER COVER

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Aileron Skin, LH	WC-AS-151-LH	1
1.	Aileron Skin, RH	WC-AS-151-RH	1
2.	Flap Skin, LH	WC-FS-151-LH	1
2.	Flap Skin, RH	WC-FS-151-RH	1
3.	Left Wing Cover	WC-LHWC-151	1
4.	Center Cover	WC-CC-151	1
5.	Right Wing Cover	WC-RHWC-151	1
6.	Center Cover Tube (No Enclosure)	WC-CT	1

PLEASE NOTE: Tail skins shown with frames.

PULLEY IS BUILT INTO THE LOWER INSTRUMENT PANEL. SEE INSTRUMENT PANEL.

TIE KNOT AT THE END OF THE BUNGEE TO RETAIN IN BLOCK.



RRR S-12 AIRRAIL TRIM SYSTEM

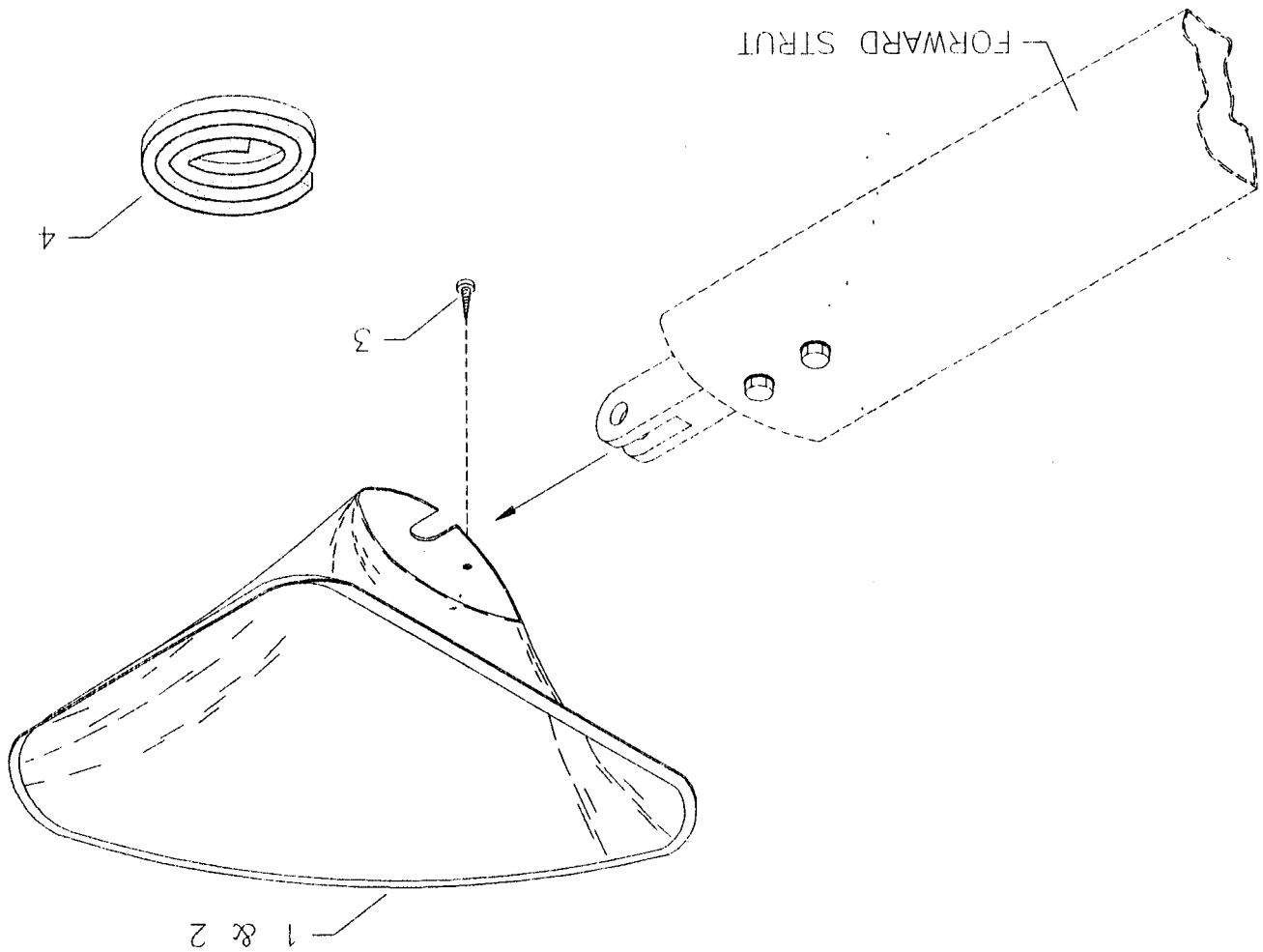
S-12 AIRAILE PITCH TRIM SYSTEM

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Spacer Bushing, 3/8" X 7/8"	PT-SB3/8X7/8	1
2.	1/4" Thick Washer	AN960-416	6
3.	3/16" Thick Washer	AN960-10	1
4.	1/4" Acorn Nut, Shear	52NKTE-048	2
5.	3/16" Shear Acorn Nut	22NKM02	1
6.	Plastic Pulley	PT-TRPUL	2
7.	Pulley Bushing	PT-PULBUSH	2
8.	1/4" Plastic Washer	PW-4	5
9.	3/16" Bolt	COMES W FLAP LEVER	0
10.	Bungee, 3/16" X 48"	PT-BUNGEE	1
11.	Trim Wheel	PT-WHEEL	1
12.	1/4" Bolt	AN4-23A	1
13.	Trim Block	PT-TBLOC	1
14.	1/4" Bolt	AN4-22A	1
15.	Control Stick Forward Elevator Stop	CS-FWDES	1

RMS FORWARD STRUT FILLET FAIRING

MD314

NOTE: LEFT SIDE SHOWN



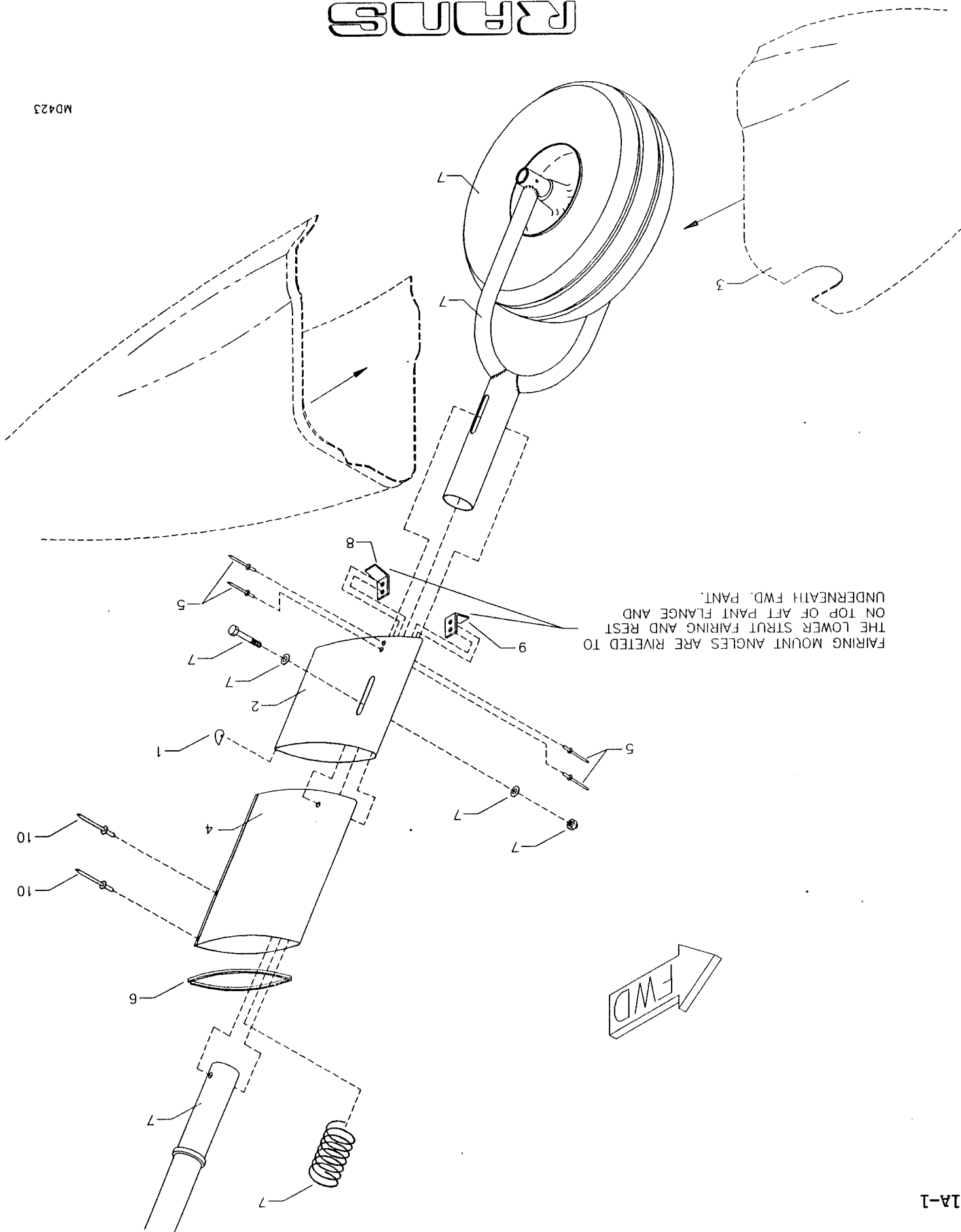
S-12 AIRAILE FILLET FAIRING

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Forward Strut Fairing, RH	W-FSFF-RH	1
2.	Forward Strut Fairing, LH	W-FSFF-LH	1
3.	Small Pan Head Screw	6RX1/2PHS	2
4.	Foam Tape, 1/8" X 1/4" X 40"	1/8X1/4X40	1

RRMS NOSE WHEEL STRUT FAIRING

2-23-93

MD423



S-12 AIRAILE NOSE FAIRING

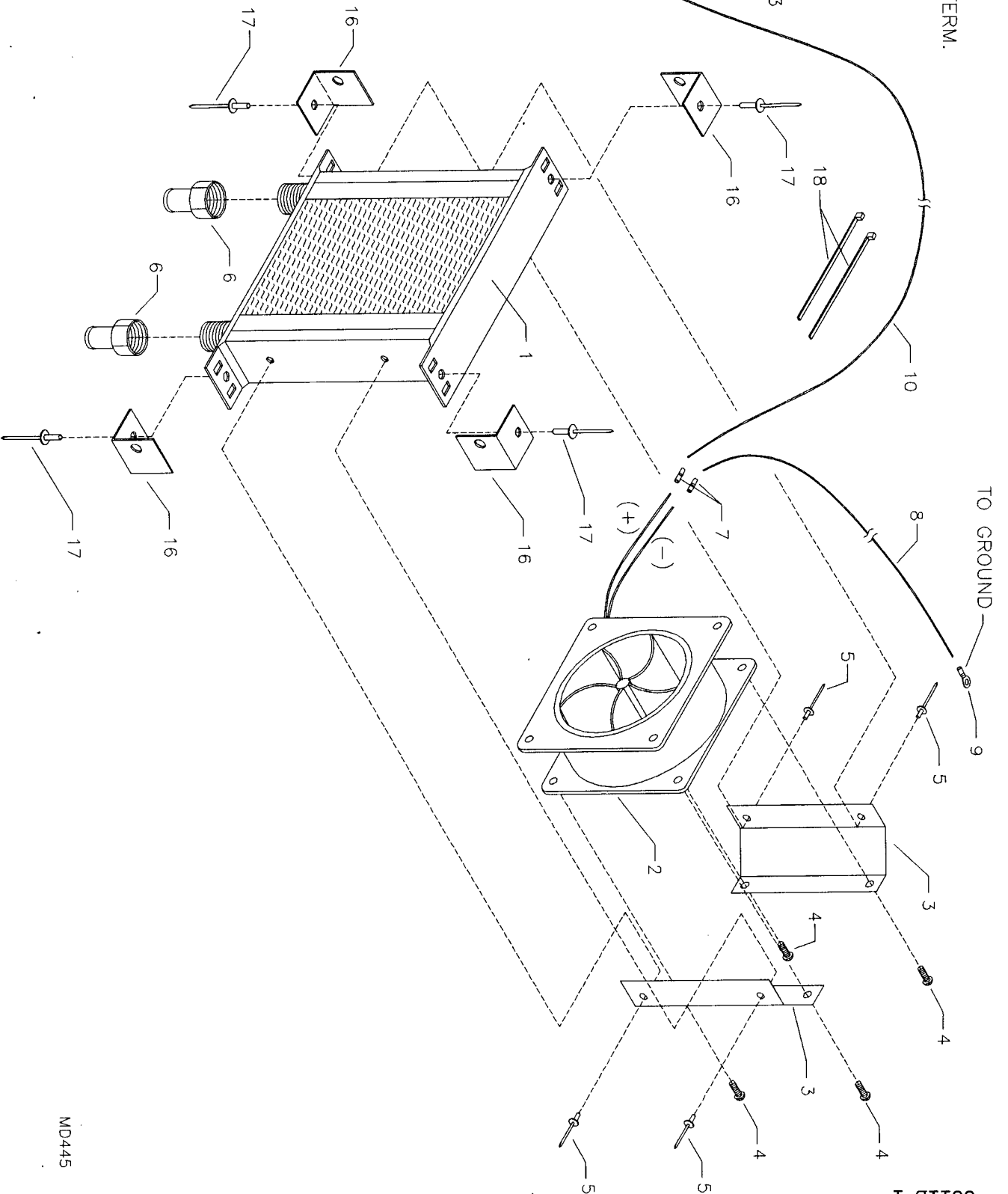
#	DESCRIPTION	PART NUMBER	QUANTITY
1.	J & B Weld Epoxy*	J & B	0
2.	Lower Fairing	LG-LN-FAIR	1
3.	Nose Wheel Pant	REFERENCE	0
4.	Upper Fairing	12-LG-UN-FA	1
5.	1/8" Aluminum Pop Rivet	30APR1/8	4
6.	Rubber Edging, 12"	8510K11	12
7.	Existing Gear Leg Parts	REFERENCE	0
8.	Upper Fairing Mount, LH	LG-NFMNT-L	1
9.	Upper Fairing Mount, RH	LG-NFMNT-R	1
10.	3/32" Aluminum Pop Rivet	40APR1/8	2

*Use J&B Weld packed in original kit or equivalent.

TO ACCESSORY TERM.
ON KEY SWITCH

LOWER
INSTRUMENT
PANEL

TO GROUND



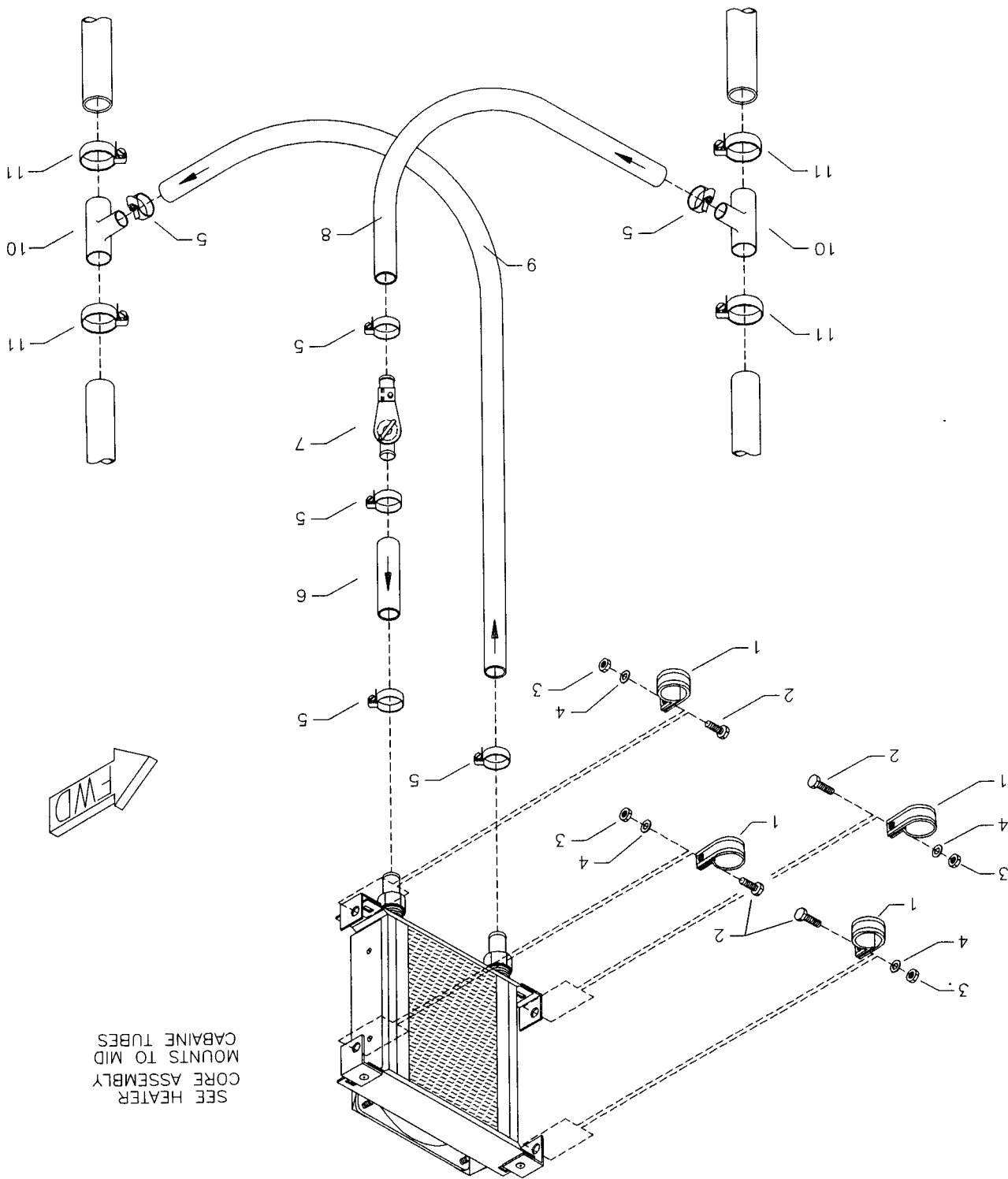
RR-12 S-12 AIRRAIL HEATER CORE ASSEMBLY

S-12 AIRAILE HEATER CORE ASSEMBLY

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	Heater Core	21608	1
2.	Fan	032207	1
3.	Fan Mounting Plates	H-HFMP	2
4.	3/16" Truss Head Screw	AN526-C1032R12	4
5.	1/8" Aluminum Pop Rivet	30APR1/8	4
6.	5/8" Nipple	80146	2
7.	Butt Connector	14 GA BUTT	3
8.	14 Gauge Black Wire, 1-36"	14 GA WIRE/BLACK	1 ft
9.	1/4" Eye	1/4 EYE 14 GA	1
10.	14 Gauge Red Wire	14 GA WIRE/RED	1 ft
11.	3/16" Eye	3/16 EYE 14 GA	3
12.	Ignition Switch	IP-IS	1
13.	14 Gauge Red Wire	14 GA WIRE/RED	1 ft
14.	Fuse Holder	IN LINE FUSE HOLDER	1
15.	Fuse 10 Amp	10 AMP FUSE	1
16.	Heater Core Mount Angles	HTR-MA	4
17.	3/16" Aluminum Pop Rivet	12APR1/8	4
18.	Zip Ties	ZIP TIES	2

RRMS S-12 AIRAILE HEATER SYSTEM

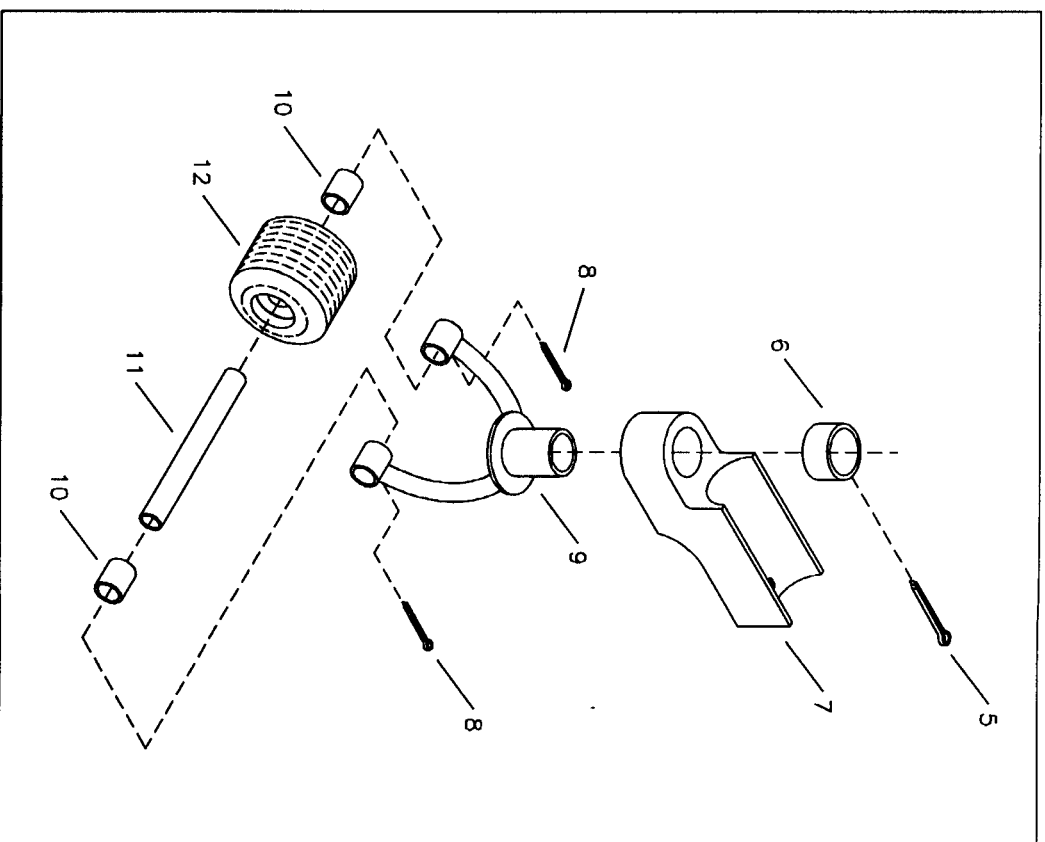
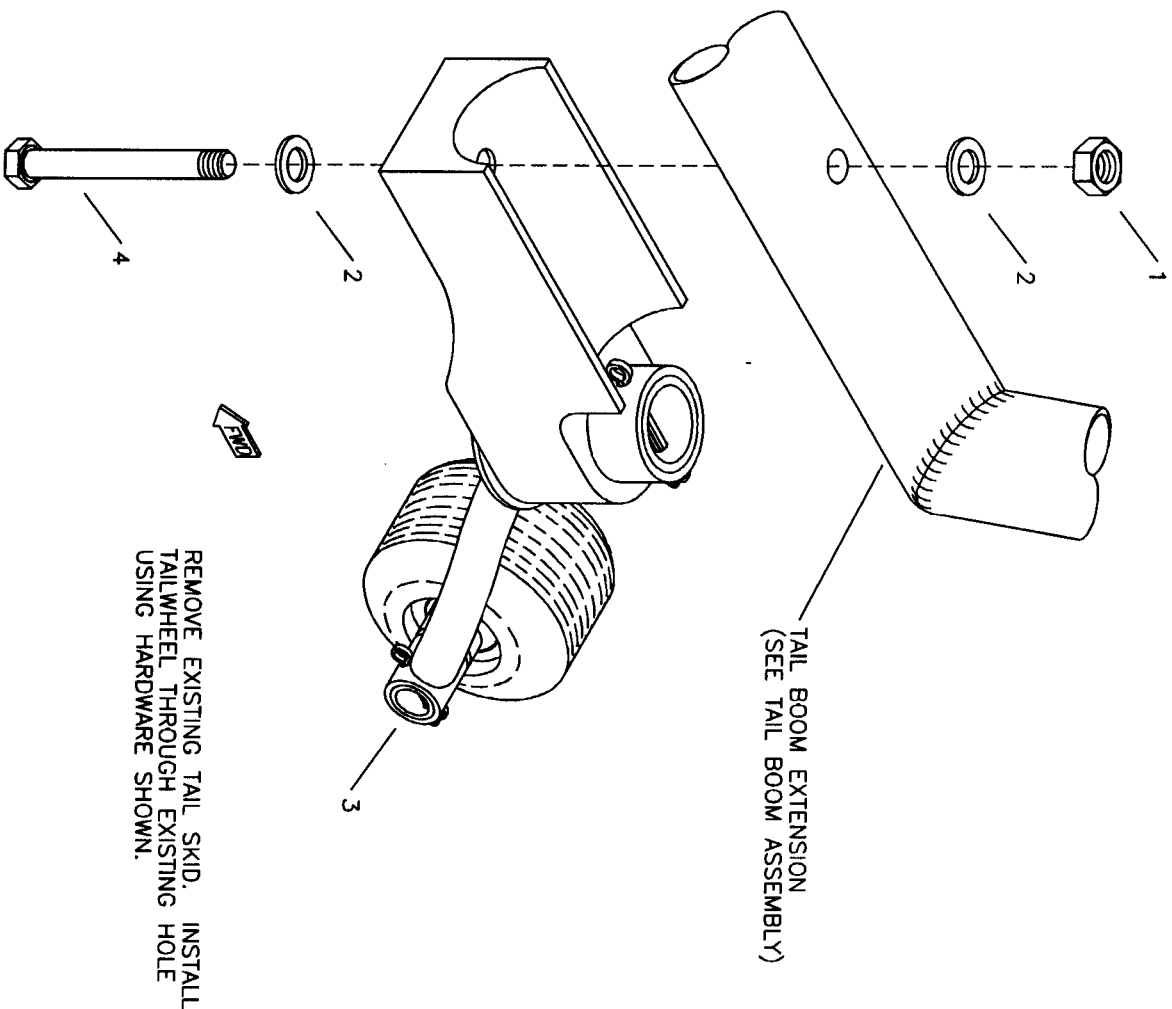
MD446



SEE HEATER
CORE ASSEMBLY
MOUNTS TO MID
CABINE TUBES

S-12 AIRAILE HEATER SYSTEM ASSEMBLY

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	1" Cushioned Clamp	MS21919-DG16	4
2.	3/16" Bolt	AN3-4A	4
3.	3/16" Shear Nut	AN364-1032A	4
4.	3/16" Thin Washer	AN960-10L	4
5.	Hose Clamp, 1 1/2"	5-5210	6
6.	5/8" Heater Hose, 3"	HEATER HOSE 5/8	1
7.	Control Valve	277813	1
8.	5/8" Heater Hose, 12"	HEATER HOSE 5/8-12"	1
9.	5/8" Heater Hose, 19"	HEATER HOSE 5/8	1
10.	1" To 5/8" Tee	H-TEE	2
11.	Hose Clamp	5-5216	4



RRM S-12/14 AIRAILE OPTIONAL TAILWHEEL ASSEMBLY

S-12 AIRAILE OPTIONAL TAILWHEEL ASSEMBLY

#	DESCRIPTION	PART NUMBER	QUANTITY
1.	3/16" Shear Nut	AN364-1032A	1
2.	3/16" Thin Washer	AN960-10L	2
3.	Tailwheel Assembly	KATG0003	1
4.	3/16" Bolt	AN3-17A	1
5.	Large Cotter Pin*	MS24665-287	1
6.	Bushing*	KPAC0035	1
7.	Tailwheel Swivel Block*	KPTG0002	1
8.	Small Cotter Pin*	MS24665-134	2
9.	Tailwheel Fork*	KPTG0001	1
10.	Bushing*	KPAC0034	2
11.	Tailwheel-Axle*	KPTG0008	1
12.	Tailwheel	KSTG0001	1

*Included in the tailwheel assembly.