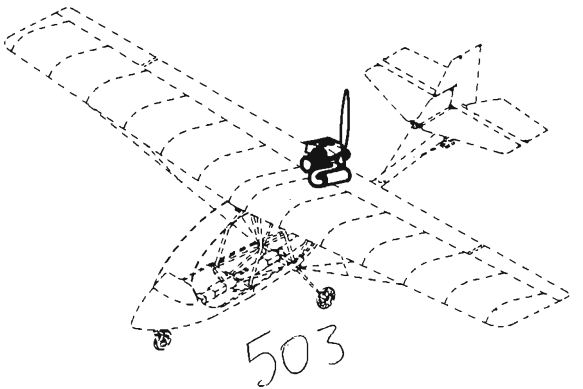
SECTION A4 - ENGINE



FOR ROTAX (503) POWERPLANT

DOC # 902-1 DATE 03/28/90

SECTION A4

POWERPLANT (ROTAX 503)

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ENGINE MOUNT ATTACHMENT

1. Remove the Powerplant (17) from the Shipping Container. Using Vise Grips remove and discard the FOUR [4] Shipping Studs (1).

2. Attach the Upper Engine Mounts (2) to the Powerplant with Bolts (3) and Washers (4). Use Thread Adhesive (19) as required.

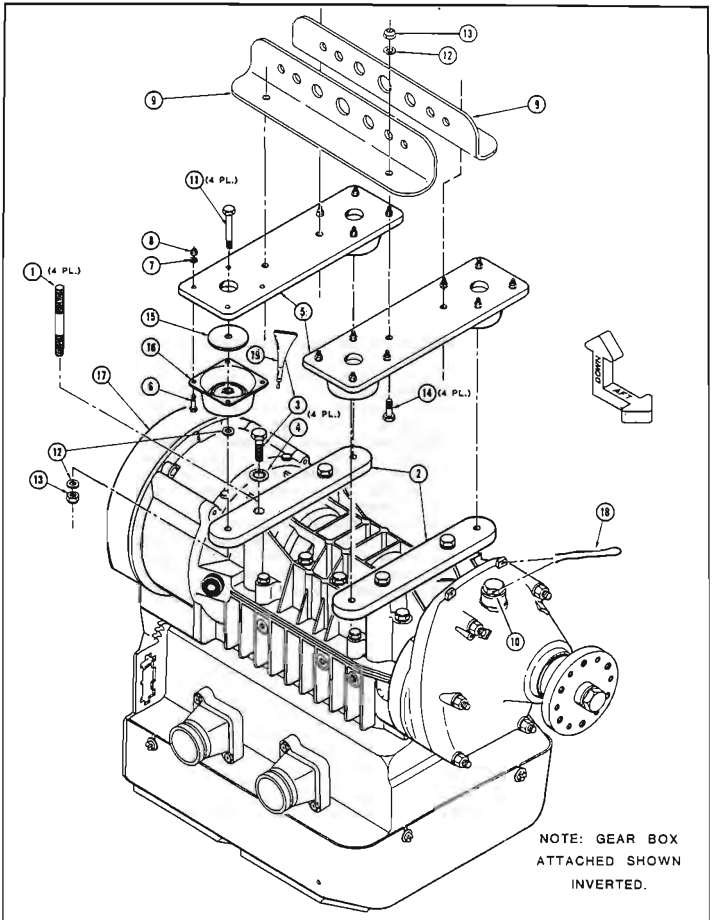
3. Attach FOUR Engine Shock Mounts (16) and Snubbing Washers (15) to the Lower Engine Mounts (5) using Hardware (6,7 and 8) FOUR Places. Tighten ALL Locknuts to proper torque.

4. Attach BOTH Engine Mount Angles (9) to the Lower Engine Mount (5) with Hardware (14,12 and 13) as illustrated. Leave the Hardware SLIGHTLY loose as to allow mounting on the Root Tube (not illustrated) in a later sequence.

5. Attach the Lower Engine Mounts (5) to the Upper Engine Mounts (2) with Hardware (11,15,12 and 13) FOUR Places. Tighten ALL Locknuts to proper torque.

6. Use Safety Wire (18) as required to secure the Gear Case Drain Plug (10) to either Tab on the Gear Case as illustrated.

Item	P/N	Qty	Description
1		4	Shipping Stud (Remove and Discard)
2	45837	2	Upper Engine Mount
3	10492	4	10 mm x 30 mm Bolt
4	10437	4	7/16" Star Washer
5	45839	2	Lower Engine Mount
6	10010	16	AN3-5A Bolt
7	10550	16	3/16" Washer
8	10500	16	3/16" Locknut
9	45836	2	Engine Mount Angle
10			Gear Case Drain Plug (part of P/N 61080)
11	10185	4	AN4-21A Bolt
12	10560	16	1/4" Washer
13	10510	8	1/4" Locknut
14	10062	4	AN4-7A Bolt
15	10564	4	Snubbing Washer
16	61035	4	Engine Shock Mount
17	61080	1	Rotax 503 Powerplant
18	20467	A/R	Safety Wire, .041"
19	60591	A/R	Thread Adhesive


13
12
9
9
11 (4 PL.)
8
7
1 (4 PL.)
15
16
19
5
17
6
3 (4 PL.)
4
14 (4 PL.)
12
13
2
18
10
DOWN
NOTE: GEAR BOX ATTACHED SHOWN INVERTED.

MUFFLER ATTACH BRACKET AND
EXHAUST MANIFOLD (HEADER) ATTACHMENT

1. Remove and discard FOUR [4] 8 mm Bolts (SAVE THE WASHERS) on the TOP of the Powerplant Shroud. Install the Muffler Attach Bracket (2) using Hardware (1,8 and 3) as illustrated.

IMPORTANT: DO NOT use Thread Adhesive!

Torque to 130 in/lbs (15 nm).

2. Attach the Exhaust (Header) Manifold (6) and Gaskets (5) with Hardware (7) and (8). Torque to 195 in/lbs (22 nm).

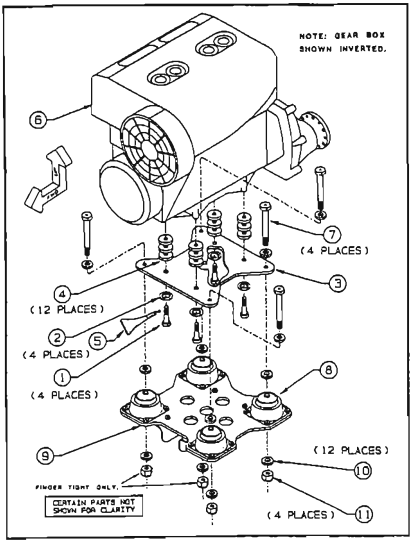
NOTE: The Gaskets (5) and Hardware (7) and (8) are located in the Carburetor Box packaged with your Powerplant.

Item	P/N	Qty	Description
1	00240275	4	8 mm x 25 mm Bolt
2	45821	1	Muffler Attach Bracket (R-503)
3	10579	8	5/16" x 3/4" x .125 Thick Aluminum Washer
4	61080		Rotax 503 Powerplant w/Dual Carb, Dual Ignition and Reduction Drive (as received)
5	00831841	2	Exhaust Manifold Gasket (in Carb Box)
6	61045	1	Exhaust (Header) Manifold (R-503)
7	00840991	4	8 mm x 30 mm Allen (Hex) Head Screw (located in Carb Box)
8	00945752	8	8 mm Lock Washer (in Carb Box)

QUICKSILVER ENTERPRISES, INC.
A Public Corporation

ROTAX 503 POWERPLANT MOUNTING INSTRUCTIONS

(for Quicksilver GT 400 and 500 aircraft)



DOC# 912-05 DATE 09/01/91

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2

LOWER ENGINE MOUNT PLATE TO
LOWER ENGINE MOUNT ANGLE ATTACHMENT

NOTE: Before starting the following assembly sequence, remove the Powerplant (17) from the shipping container. Use 'vise grips' to remove and discard the FOUR shipping studs attached to the powerplant (not illustrated).

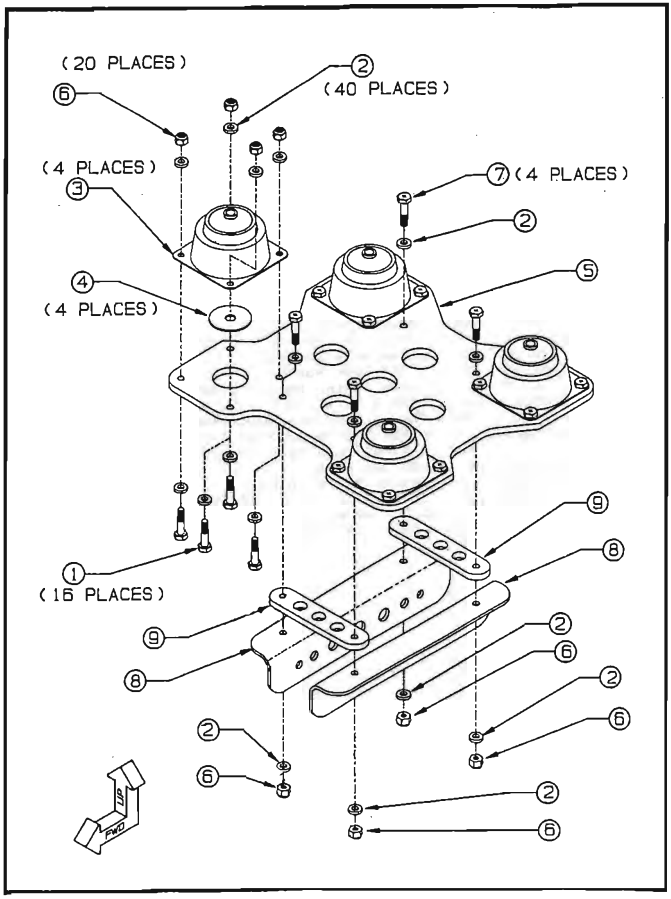
1. Attach FOUR Engine Shock Mounts (3) and Snubbing Washers (4) to the Lower Engine Mount Plate (5) with the hardware (1, 2 and 6) FOUR Places as illustrated. Tighten ALL Locknuts to proper torque.

NOTE: Position each of the Snubbing Washers (4) BETWEEN the Engine Shock Mount (3) and the Lower Engine Mount Plate (5).

2. Attach BOTH Engine Mount Angles (8) and BOTH Engine Mount Spacer Plates (9) to the Lower Engine Mount Plate (5) with hardware (7, 2 and 6) as illustrated. Leave the hardware SLIGHTLY loose as to allow mounting on the Root Tube (not illustrated) in a later sequence.

Item	P/N	Qty	Description
1	10060	16	AN4-6A Bolt
2	10560	40	1/4" Washer
3	61036	4	Engine Shock Mount
4	61037	4	Snubbing Washer
5	60268	1	Lower Engine Mount Plate
6	10510	8	1/4" Locknut
7	10064	4	AN4-11A Bolt
8	45836	2	Engine Mount Angle
9	60267	2	Engine Mount Spacer Plate

LOWER ENGINE MOUNT PLATE TO
LOWER ENGINE MOUNT ANGLE ATTACHMENT



UPPER AND LOWER ENGINE MOUNT PLATE TO POWERPLANT ATTACHMENT

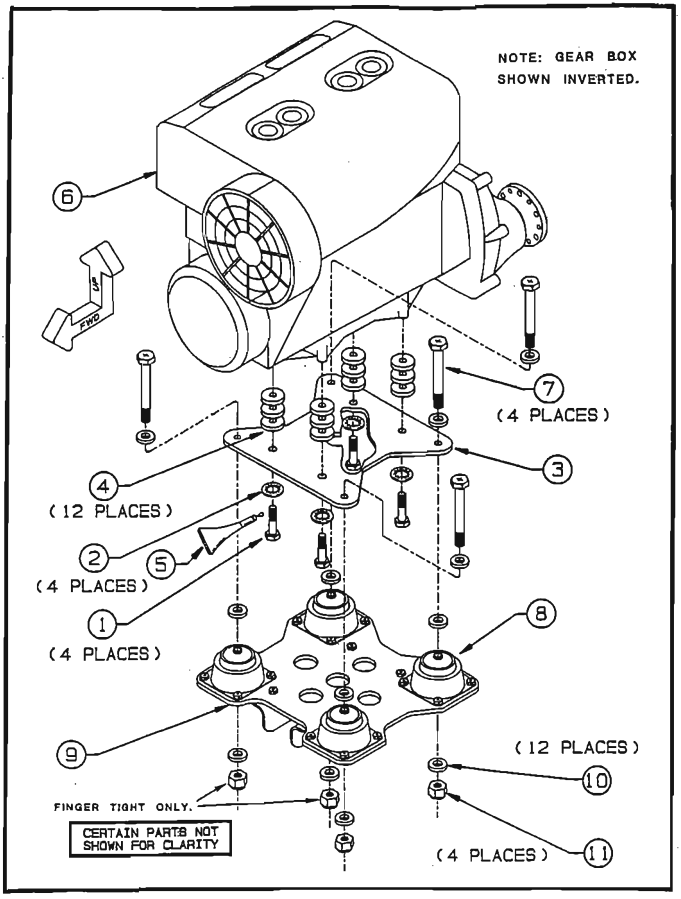
1. Assemble as illustrated attaching the Upper Engine Mount Plate (3) to the Powerplant (6) with the hardware (1,2 and 4) FIRST. Apply Thread Adhesive (5) to the threads of ALL Bolts (1) FOUR places. Tighten ALL Bolts to proper torque.

2. Attach the Lower Engine Mount Plate (9) to the Upper Engine Mount Plate (3) with the hardware (7, 10, and 11) as illustrated. Tighten All Locknuts (11) to proper torque.

NOTE: Tighten the TWO Locknuts (11) on the intake side of the powerplant FINGER TIGHT ONLY at this time as the Fuel Pump Mount Plate (not illustrated) will be attached in a later sequence on pages 10 and 11.

Item	P/N	Qty	Description
1	10489	4	10 mm x 50 mm Bolt
2	10437	4	7/16" Lock Washer
3	60269	1	Upper Engine Mount Plate
4	45866	12	.43" I.D. x 1.25" O.D. x .25" Thick Spacer
5	60591	A/R	Thread Adhesive (Loctite 290)
6	61080		Rotax 503 Powerplant (w/ Dual Carb, Dual CDI and Reduction Drive)
7	10399	4	AN6-20A Bolt
8	61036		Engine Shock Mount
9	60268		Lower Engine Mount Plate
10	10575	12	3/8" Washer
11	10547	4	3/8" - 24 Locknut

UPPER AND LOWER ENGINE MOUNT PLATE TO POWERPLANT ATTACHMENT



MUFFLER ATTACH BRACKET AND EXHAUST MANIFOLD ATTACHMENT

1. Remove and discard the FOUR (4) 8 mm Bolts (SAVE THE WASHERS) on the TOP of the Powerplant Shroud. Install the Muffler Attach Bracket (2) using the hardware (1,8 and 3) as illustrated. Torque to 130 in/lbs (15 nm).

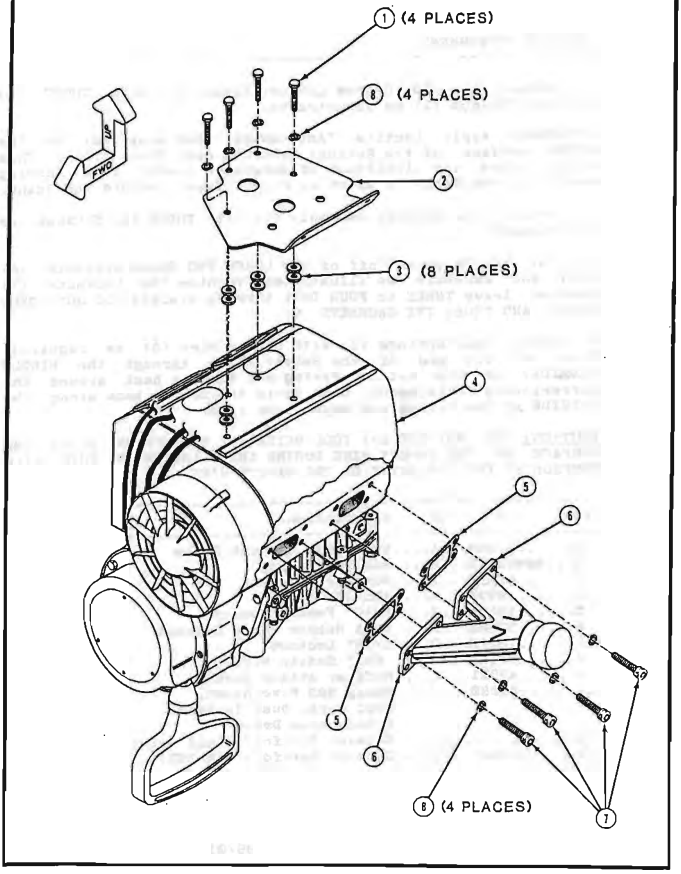
IMPORTANT: DO NOT use Thread Adhesive!

2. Attach the Exhaust Manifold (6) and Gaskets (5) with the hardware (7) and (8). Torque to 195 in/lbs (22 nm).

NOTE: The Gaskets (5) and hardware (7) and (8) are located in the Carburetor Box packaged with your Powerplant.

Item	P/N	Qty	Description
1	00240275	4	8 mm x 25 mm Bolt
2	45821	1	Muffler Attach Bracket
3	10579	8	5/16" x 3/4" x .125 Thick Aluminum Washer
4	61080		Rotax 503 Powerplant w/Dual Carb, Dual Ignition and Reduction Drive
5	00831841	2	Exhaust Manifold Gasket
6	61045	1	Exhaust Manifold
7	00840991	4	8 mm x 30 mm Socket Head Screw
8	00945752	8	8 mm Lock Washer

MUFFLER ATTACH BRACKET AND
EXHAUST MANIFOLD ATTACHMENT



MUFFLER ATTACHMENT

1. Attach the 90 Degree Exhaust Elbow (1) with THREE [3] Muffler Springs (2) as illustrated.

OPTIONAL: Apply Loctite "Anti-Seize" (Not supplied) to the OUTER surface of the Exhaust Manifold Ball Joint (11). This will reduce the likelihood of corrosion (rust) from forming and allow the Elbow to pivot or rotate freely around the joint.

2. Attach the Muffler Assembly (1) with THREE [3] Springs as illustrated.

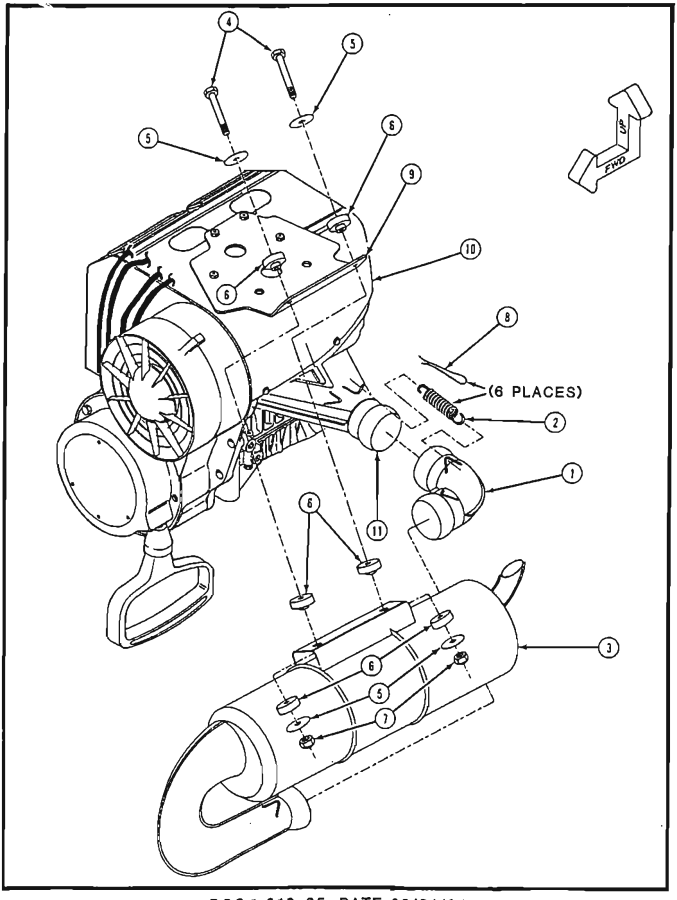
3. Cut the "Nipples" off of the LOWER TWO Shock Grommets (6) ONLY and assemble as illustrated. Tighten the Locknuts (7) however leave THREE to FOUR Bolt threads visible. DO NOT OVER TORQUE AND CRUSH THE GROMMETS (6).

4. Secure ALL Springs (2) with Safety Wire (8) as required. Pass ONE [1] end of the Safety Wire through the MIDDLE (INSIDE) of the Muffler Spring and bend it back around the corresponing attachment tab. Route the Spring back along the OUTSIDE of the Spring and secure the ends.

CAUTION: DO NOT USE ANY TOOL WHICH MAY SCRATCH OR SCORE THE SURFACE OF THE SAFETY WIRE DURING INSTALLATION AS THIS WILL COMPROMISE THE INTEGRITY OF THE SAFETY WIRE.

Item	P/N	Qty	Description
1	61082	1	90 Degree Exhaust Elbow
2	00938790	6	Muffler Spring
3	61066	1	Muffler Assembly
4	10320	2	AN5-15A Bolt
5	10600	4	5/16" Fender Washer
6	30380	6	Soft Rubber Shock Grommet
7	10540	2	5/16" Locknut
8	20467	A/R	.041" Safety Wire
9	45821	1	Muffler Attach Bracket
10	61080		Rotax 503 Powerplant, Dual Carb, Dual Ignition, w/Reduction Drive
11			Exhaust Manifold "Ball Joint"
12	61045		Exhaust Manifold (R-503)

MUFFLER ATTACHMENT



FUEL PUMP ATTACHMENT

1. Remove the Dual Carb Fuel Pump (1) from the powerplant carburetor box.

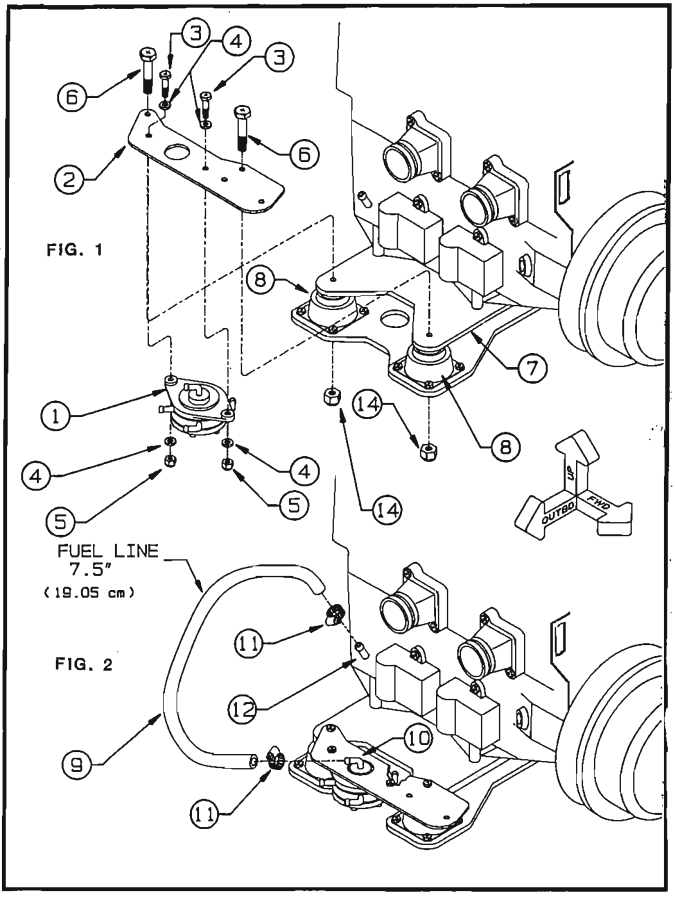
2. Refer to Figure 1. Attach the Fuel Pump (1) to the Fuel Pump Mount Plate (2) as illustrated with the hardware (3,4 and 5). Tighten to proper torque.

3. Attach the Fuel Pump Mount Plate (2) to the Upper Engine Mount (7) and the Shock Mounts (8) with the hardware (6) (previously installed) and (5) as illustrated. Tighten to proper torque.

4. Refer to Figure 2. Measure and cut a piece of Fuel Line (9) 7 1/2" (19.05 cm). Attach one end of the Fuel Line to the Pulse Port (10) located on the Fuel Pump (1). Slide on TWO Clamps (11). Attach the opposite end of the Fuel Line on the Pulse Port (12) of the Powerplant (13). CAREFULLY tighten the Clamps (11). DO NOT OVER TORQUE.

Item	P/N	Qty	Description
1	00994485	1	Dual Carburetor Fuel Pump
2	45858	1	Fuel Pump Mount Plate (R-503)
3	10066	2	AN4-10A Bolt
4	10560	4	1/4" Washer
5	10510	4	1/4" Locknut
6	10399		AN6-20A Bolt
7	60269		Upper Engine Mount
8	61036		Engine Shock Mount
9	30220	A/R	Fuel Line, 7 1/2" (19.05 cm)
10			Pulse Port on Fuel Pump
11	30230	2	Fuel Line Clamp
12			Pulse Port on Powerplant
13	61080		Rotax 503 Powerplant (w/ Dual Carb, Dual Ignition and Reduction Drive)
14	10547		3/8" Locknut

FUEL PUMP ATTACHMENT



CARBURETOR ATTACHMENT

1. Push the LARGER (INSIDE diameter) end of the Rubber Sockets (2) onto the Intake Sockets (8) of the powerplant (10). Press them on until the "head" on the INSIDE of the Rubber Socket "seats" with the "recesses" on the Intake Sockets. Loosen and slide the Clamps (3) onto the Sockets (2). Position the Screws (9) on the Clamps (3) so they can be tightened later. Assemble as illustrated.

NOTE: Notice the arrow on the Rubber Socket. The ARROW points TOWARD THE ENGINE.

2. Push the Carburetors (1) into the Rubber Sockets (2) until the "heads" seat with the "recesses". Ensure the TOP of each Carburetor is LEVEL with the TOP of the powerplant. You may wish to consult the powerplant (ROTAX) Operators Manual for additional information regarding Carburetor alignment. Tighten the Clamps (3) securely.

3. Cut a piece of Fuel Line (5) 18 1/2" (47 cm) in length, to be attached to the FORWARD Carburetor. Cut another piece 17" (43.18 cm) long to be attached to the AFT Carburetor.

4. Route the FORWARD Fuel Line AFT and OUTBOARD and BETWEEN the Carburetors. Route the AFT Fuel Line INBOARD or BEHIND the AFT Carburetor. Attach the Fuel Line (5) with Fuel Line Clamps (4) as illustrated. Secure the Clamps. DO NOT OVER TORQUE.

5. Tie Wrap the AFT Fuel Line together with the Fuel Pump Pulse Line (11) located at the TOP CENTER of the Fuel Pump using a "stand-off".

Item	P/N	Qty	Description
1	00995578	2	Bing Carburetor
2	00867484	2	Rubber Socket
3	00951510	4	Hose Clamp
4	30230	4	Fuel Line Clamp
5	30220	A/R	Fuel Line, 18 1/2" (47 cm), 17" (43.2 cm)
8	00867400		Intake Socket
9			Hose Clamp Screw
10	61080		Rotax 503 Powerplant
11			Fuel Pump Pulse Line
12			Pulse Line

CARBURETOR ATTACHMENT

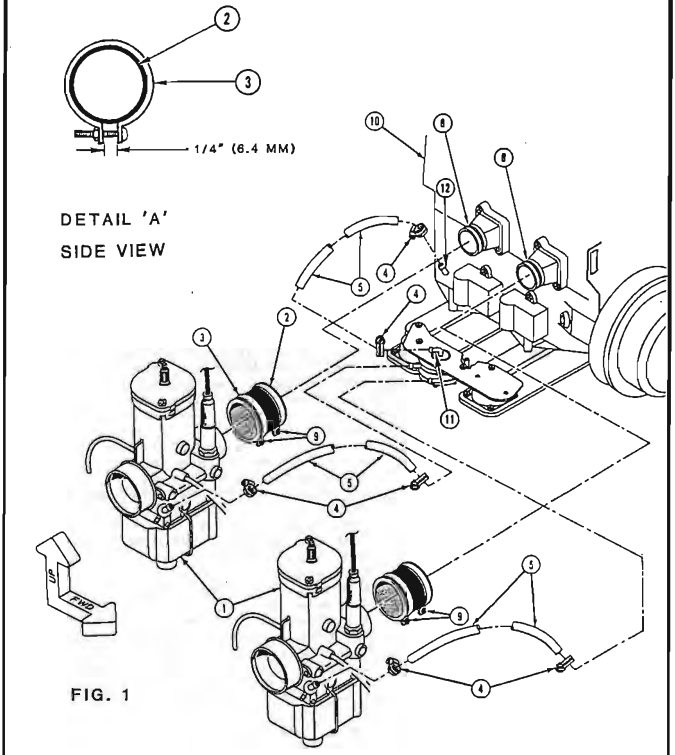


FIG. 1

GEAR OIL INSTALLATION AND SPARK PLUG ATTACHMENT

1. Refer to Figure 1 and remove and retain the Oil Vent Plug (2) at the TOP of the Gear Box (4). Remove and retain the Lower Level Cap Stan Screw (2).

2. Fill the Gear Box (4) through the UPPER Vent Plug hole with the SPECIFIED GEAR OIL (3) up to the LOWER LEVEL Oil Plug (1). IMMEDIATELY install the LOWER Level Cap Stan Screw (1) and Vent Plug (2). Secure UPPER and LOWER Oil Plug (1), Vent Plug (2), and BOTTOM Drain Plug with Safety Wire (15).

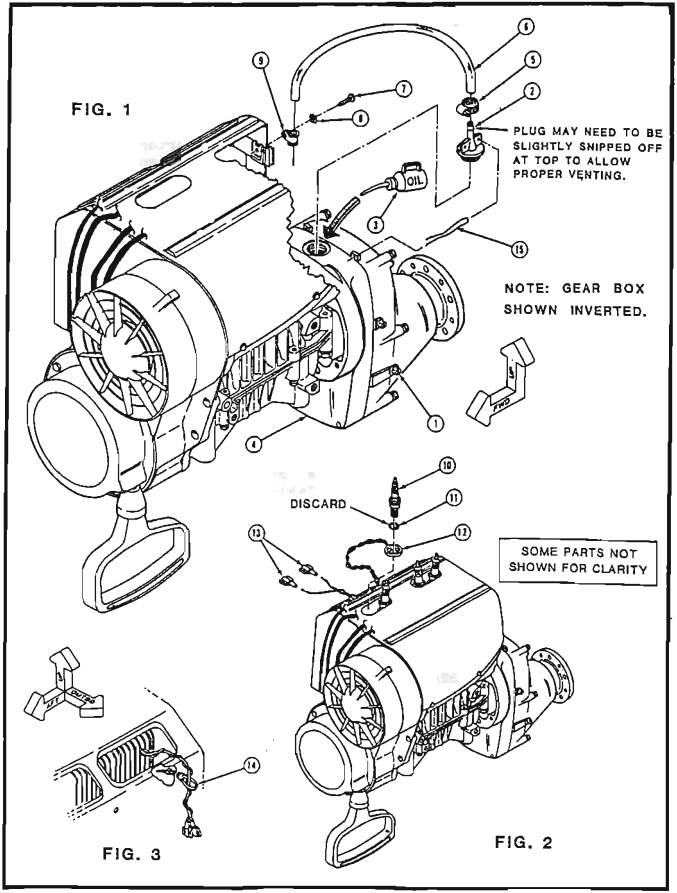
3. Measure and cut a 9" (22.86 cm) piece of Fuel Line (6). Use a Fuel Line Clamp (5) to secure it to the Vent Plug (2). Attach the opposite end using the hardware (7, 8 attached to the Powerplant Shroud and 9) Tighten the Screw (7) securely.

4. Refer to Figure 2. Locate the FOUR [4] Spark Plugs (10) in the Powerplant Carburetor Box. Set the Gap to .020" (.05 mm). Install THREE [3] ONLY into the powerplant as illustrated. Torque to 240 in/lbs. Install the FOURTH [4th] and FORWARD Plug by removing the Washer (11) and installing the Temperature Sensor (12). Torque to 240 in/lbs. DO NOT attach the spark plug wires at this time.

5. Refer to Figure 3. Thread the Temperature Sensor Wires past the Cylinder Head Cooling Fins (UNDER the Shroud). Fasten the Electrical Connectors (13). Secure as illustrated with a Tie Wrap (14) and a Fuel Line "Stand-Off" Assembly.

Item	P/N	Qty	Description
1	00841781	1	6 mm x 10 mm Cap Stan Screw (Oil Plug)
2	00241925	1	18 mm x 1.5 mm Vent Plug
3			API-GL5 or GL6SAE 140, 85W-140EP or SAE 90 Hypoid Gear Oil (ONE Pint required - not supplied)
4			Gear Box (part of P/N 61080)
5	30230	1	Fuel Line Clamp
6	30220	A/R	Fuel Line
7	00841490	1	4.8 mm x 16 mm Self Tapping Screw
8	00845270	1	4.9 mm x 15.3 mm x 0.5 mm Washer
9	20432	1	3/8" Cushioned Clamp
10	00897050	4	NGK B8ES Spark Plug (in Carb Box)
11			Compression Washer (part of Item 10)
12	90129	1	Cylinder Head Temperature (CHT) Sensor (in box with Instrument P/N 90126)
13	30075	2	Female Q.D. Connectors
14	30480	1	7" Tie-Wrap
15		A/R	.041" Safety Wire
16			Rotax 503 Powerplant

GEAR OIL INSTALLATION AND SPARK PLUG ATTACHMENT



THROTTLE CABLE AND CHOKE CABLE
TO SPLITTTER BRACKET ATTACHMENT

1. Remove and disassemble the Recoil Starter Housing (10) as per the Rotax Manual. Tools are located in your Rotax tool kit.

2. Locate the CENTER of the Recoil Starter Housing. Measure 1 1/2" (38.1 mm) OUTBOARD (to your LEFT when facing the Housing) from the VERTICAL CENTERLINE. Mark this location. Measure 1" (25.4 mm) ABOVE and BELOW the HORIZONTAL CENTERLINE. Mark these locations. These hole locations should be 2" (50.8 mm) apart (CENTER to CENTER).

3. Position the Splitter Bracket (1) VERTICALLY against the Starter Housing (10) with the EXISTING holes in the Splitter Bracket CENTERED OVER your marks as illustrated.

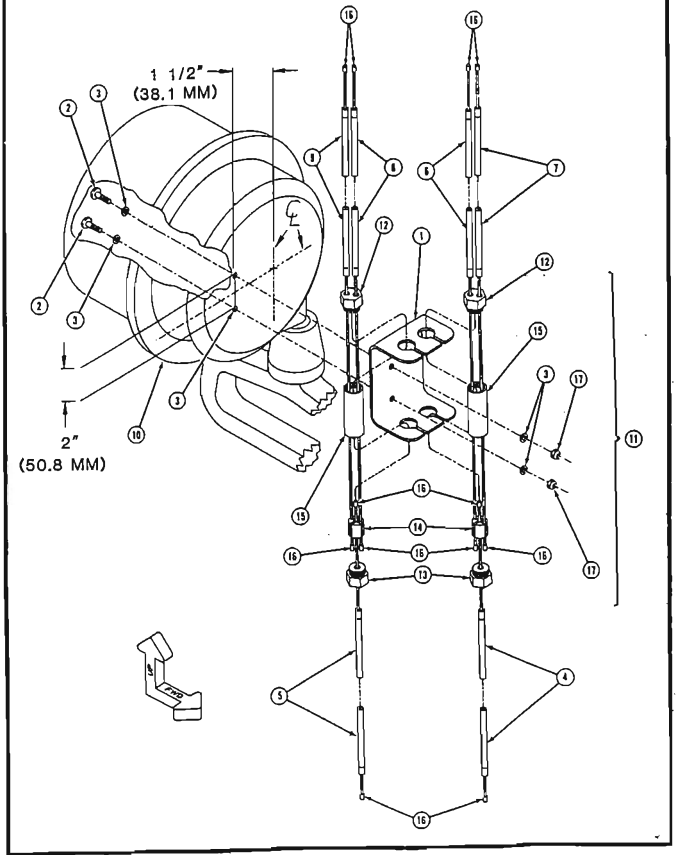
NOTE: Ensure the Splitter Bracket (1) is orientated with the edge of the Bracket CLOSEST to the attachment holes positioned OUTBOARD and that the 3/16" holes will be OUTBOARD of the Recoil Spring area.

4. Drill and deburr TWO [2] 3/16" (4.8 mm) diameter holes into the Starter Housing (10) using the EXISTING holes in the Splitter Bracket (1) as a guide or template. Attach with Hardware (2, 16 and 17). Tighten to proper torque.

5. Connect the Throttle and Choke Cables (4) thru (9) as illustrated. Ensure ALL Cable Ferrules (16) seat completely or "all the way" down into the Cable Couplings (14).

Item	P/N	Qty	Description
1.	46011	1	Splitter Bracket
2.	11074	2	AN525-10R9 Washer Head Screw
3.	10550	4	3/16" Washer
4.	45811		Throttle Cable
5.	45814		Choke Cable
6.	90286	1	20" Throttle Cable Extension
7.	90287	1	24" Throttle Cable Extension
8.	90288	1	20" Choke Cable Extension
9.	90289	1	24" Choke Cable Extension
10.	00910107		Recoil Starter Housing (part of P/N 61085)
11.	90285	1	1 into 2 Cable Splitter (consists of Items 12,13,14, and 15)
12.		2	2 Hole Splitter End (part of P/N 90285)
13.		2	1 Hole Splitter End (part of P/N 90285)
14.		2	Cable Coupling (part of P/N 90285)
15.		1	Splitter Housing (part of P/N 90285)
16.			Cable Ferrule
17.	10500	2	3/16" Locknut

THROTTLE CABLE AND CHOKE CABLE
TO SPLITTTER BRACKET ATTACHMENT



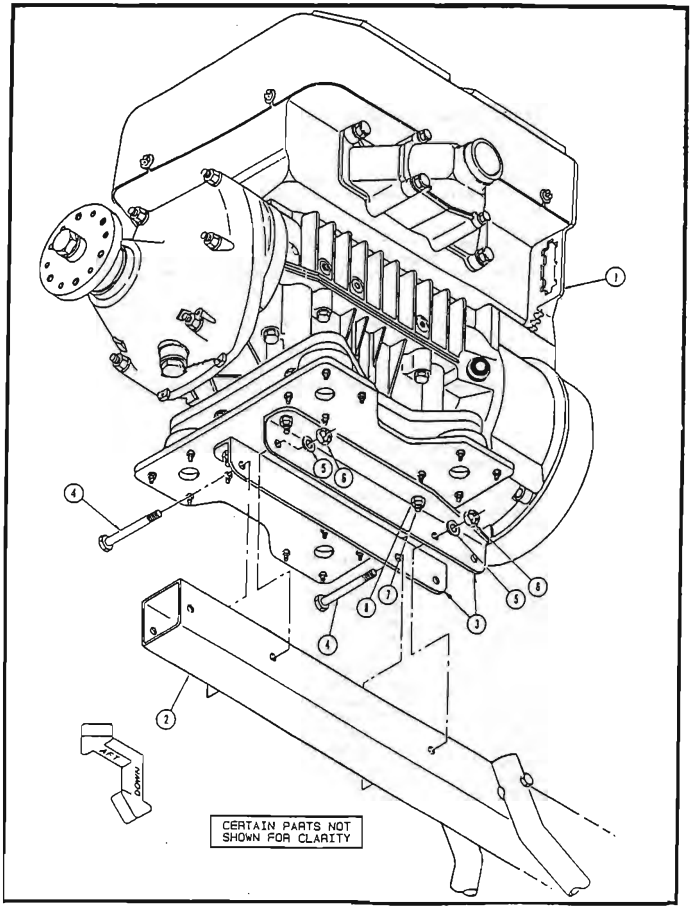
POWERPLANT TO ROOT TUBE ATTACHMENT

1. Assemble as illustrated. Tighten ALL Locknuts to proper torque.

NOTE: Bolts (7) and Locknuts (8) were previously installed only LOOSELY on Pages 2 and 3. Tighten the Locknuts (8) to proper torque at this time.

Item	P/N	Qty	Description
1	61080	1	Rotax 503 Powerplant (with Dual Carburetor, Dual CDI Ignition and Reduction Drive)
2			Root Tube
3	45836	2	Engine Angle Mount
4	10325	2	AN5-26A Bolt
5	10570	4	5/16" Washer
6	10540	2	5/16" Locknut
7	10062		AN4-7A Bolt
8	10510		1/4" Locknut

POWERPLANT TO ROOT TUBE ATTACHMENT



FUEL FILTER / FUEL LINE ROUTING AND ATTACHMENT

(GT 500)

IMPORTANT: Note the direction of the Fuel Flow Arrow on the Fuel Filter (4). The Fuel Filter MUST be installed EXACTLY as illustrated.

1. Attach a piece of Fuel Line (3) to the Fuel Tank Cut-Off Valve (1) with clamp (2). DO NOT OVER TORQUE the Fuel Line Clamps.

2. Add a Fuel Filter (4) and Secure with FOUR Tie Wraps (5) (Two attached together end to end) at TWO locations. Cut TWO Stand-offs (as required to space the Fuel Filter adequately) as illustrated.

3. Attach a Cushioned Clamp (10) to the Fuel Line and Root Tube (11) with a Bolt (7).

4. Slide a Cushioned Clamp (10) over the Fuel Line and attach to the previously attached Bolt (13). Tighten Locknut (15).

(GT 400)

1. Refer to Detail 'A' and attach the Fuel Line (3) from Fuel Filter to the Fuel Pump similarly.

IMPORTANT: ALWAYS route fuel lines AWAY from moving parts, sharp edges, and extreme temperatures.

Item	P/N	Qty	Description
1	30282		Cut-Off Valve
2	30230	4	Fuel Line Clamp
3	30220	A/R	Fuel Line
4	30210	1	Fuel Fiter
5	30480	4	7" Tie Wrap
6		2	Stand-Off (made from P/N 30220)
7	10235	1	AN4-25A Bolt
8	10560	2	1/4" Washer
9	10510	1	1/4" Locknut
10	20432	1	3/8" Cushioned Clamp
11	45668		Root Tube
12	30254	1	8.5 Gallon Fuel Tank Assembly
13	10010		AN3-5A Bolt
14	10550		3/16" Washer
15	10500		3/16" Locknut

FUEL FILTER / FUEL LINE ROUTING AND ATTACHMENT

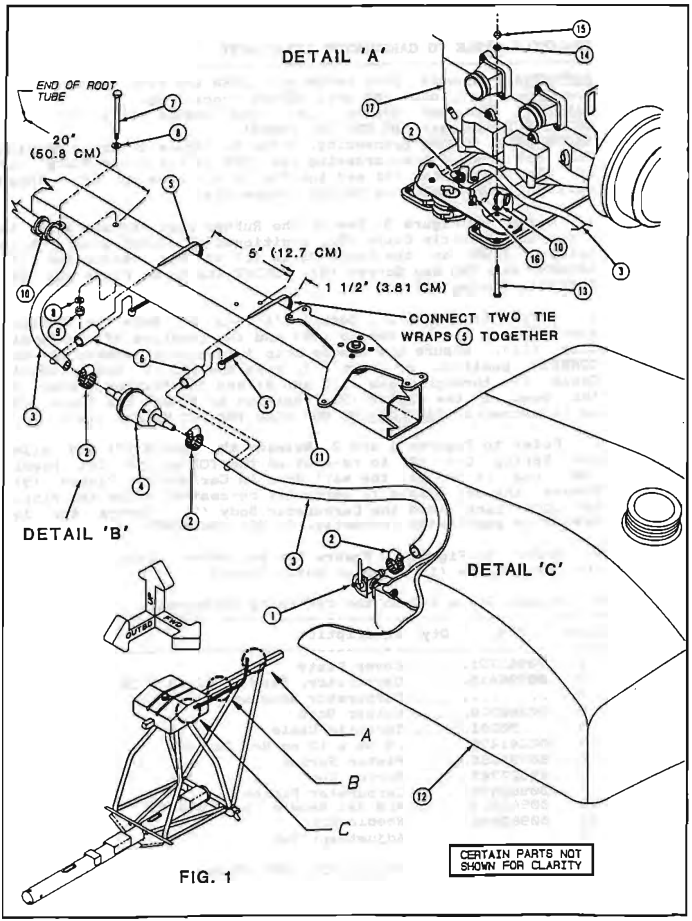


FIG. 1

THROTTLE CABLE TO CARBURETOR ATTACHMENT

ESSENTIAL: Ensure your hands are CLEAN and your work area is free from dirt, dust and grit BEFORE proceeding.
CAUTION: The Jet Needle (10) and Needle Clip (11) are EXTREMELY delicate. DO NOT USE FORCE!
IMPORTANT: BEFORE proceeding, Refer to Figure 2. Use a Marking Pen and draw a line crossing the SIDE of the Cover Plate (1) of the Carburetor (2) and the TOP of the Housing (3). These marks will be realigned during reassembly.

1. Refer to Figure 3. Remove the Rubber Boot (4) and slip it onto the Throttle Cable (5), positioned as illustrated. While holding DOWN on the Cover Plate (1) of the Carburetor (2) LOOSEN the TWO Hex Screws (6). REMOVE the Cover Plate and the INTERNAL Spring (7).

2. Refer to Figure 3 , Details 'A' and 'B'. Note the seating position of the Jet Needle (10) and the location of the Needle Clip (11). Ensure the Needle Clip is properly located in the CORRECT position or slot # 1. Pass the END of the Throttle Cable (5) through items (1,7 and 8) and the "keyhole" slot in the base of the Piston (9). Position or "seat" the Cable (5) as illustrated. **CAUTION:** DO NOT BEND THE JET NEEDLE (10)!

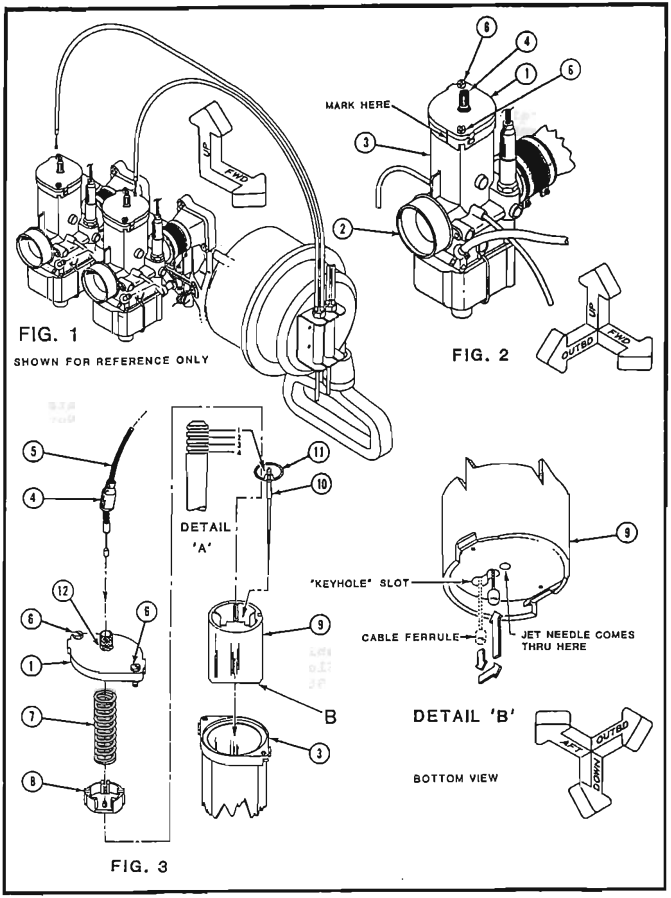
3. Refer to Figures 1 and 2. Release the Spring (7) and allow the Spring Cup (8) to re-seat on the TOP of the Jet Needle (10) and it is "all the way" down in Carburetor Piston (9). Ensure the Jet Needle is correctly re-seated. Allow the Piston to LOCK back into the Carburetor Body (3). Ensure the Jet Needle is positioned correctly. DO NOT USE FORCE!

4. Refer to Figure 2. Ensure the pen marks align. Re-attach the Cover Plate (1). Tighten until "snug".

5. Repeat Steps 1-4 on the remaining Carburetor.

Item	P/N	Qty	Description
1	00963721		Cover Plate
2	00996415		Carburetor, Bing Model 54 x 36 mm
3			Carburetor Housing
4	00260370		Rubber Boot
5	90281		Throttle Cable
6	00241430		5 mm x 12 mm Hex Screw
7	00938655		Piston Spring
8	00827345		Spring Cup
9	00963679		Carburetor Piston
10	00963714		8L2 Jet Needle (position #1)
11	00963500		Needle Clip
12			Adjustment Nut

THROTTLE CABLE TO CARBURETOR ATTACHMENT



CHOKE CABLE TO CARBURETER ATTACHMENT

NOTE: The following sequence must be completed on eac Carburetor. Use the LONGER (24") Choke Cable Extension on th AFT Carburetor.

1. Refer to Detail 'B'. Locate the Choke Plunger 12). Pus the Rubber Boot (6) onto the Choke Cable (7). Pass he Cabl (7) through the Items (9,8,4,5 and 10).

2. Thread the Jam Nut (8) ALL THE WAY onto the Cable Adjuste (9). Thread the Cable Adjuster (9) into the Remote Closur Screw (4) up to the Jam Nut (8). DO NOT tighten. Compress th Spring (5) into the Closure Screw (4) by pushing on the Bras Sleeve (10).

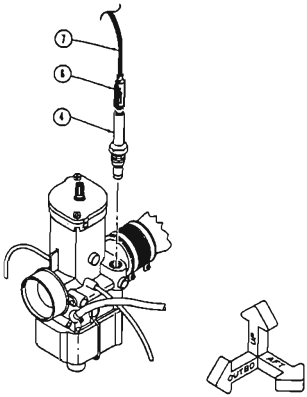
3. Refer to Detail 'C'. Attach the Piston (11) to the Ferrul (13) on the END of the Cable (7).

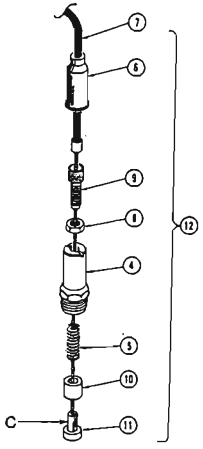
4. Screw the Choke Plunger Assembly into the SAME threads fro which the Choke Plunger Assembly was removed. Tighten unti "snug". Unscrew the Cable Adjuster (9) to eliminate th "slack" from the Cable Extension (7). Tighten the Jam Nut (8 against the Closure Screw (4). Reposition the Rubber Boot (6 OVER the Cable Adjuster (9).

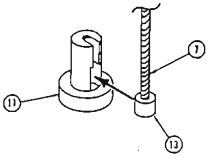
5. Repeat the sequence for the remaining Carburetor.

Item	P/N	Qty	Description
4...	00963750		Closure Screw
5...	00661090		Starting Piston Spring
6...	00260370		Rubber Boot
7...	90288		20" Choke Cable Extension
	90289		24" Choke Cable Extension
8...	00942541		6 mm x .75 mm Hex Nut
9...	00241440		6 mm Cable Adjustment
10...	00268450		Brass Sleeve
11...	00963740		Remote Staring Piston
12...	60216		Remote Plunger Kit
13...			Cable Ferrule

CHOKE CABLE TO CARBURETER ATTACHMENT







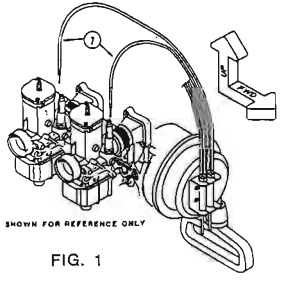


FIG. 1

THROTTLE CABLE AND CHOKE CABLE "STAND-OFF" ASSEMBLY ATTACHMENT

1. Cut THREE Fuel Line Stand-offs (1) and attach as illustrated.

Item	P/N	Qty	Description
1	30220	3	Fuel Line "Stand-Off"
2	30480	1	7" Tie Wrap
3	90286		20" Throttle Cable Extension
4	90287		24" Throttle Cable Extension
5	90288		20" Choke Cable Extension
6	90289		24" Choke Cable Extension

THROTTLE CABLE AND CHOKE CABLE "STAND-OFF" ASSEMBLY ATTACHMENT

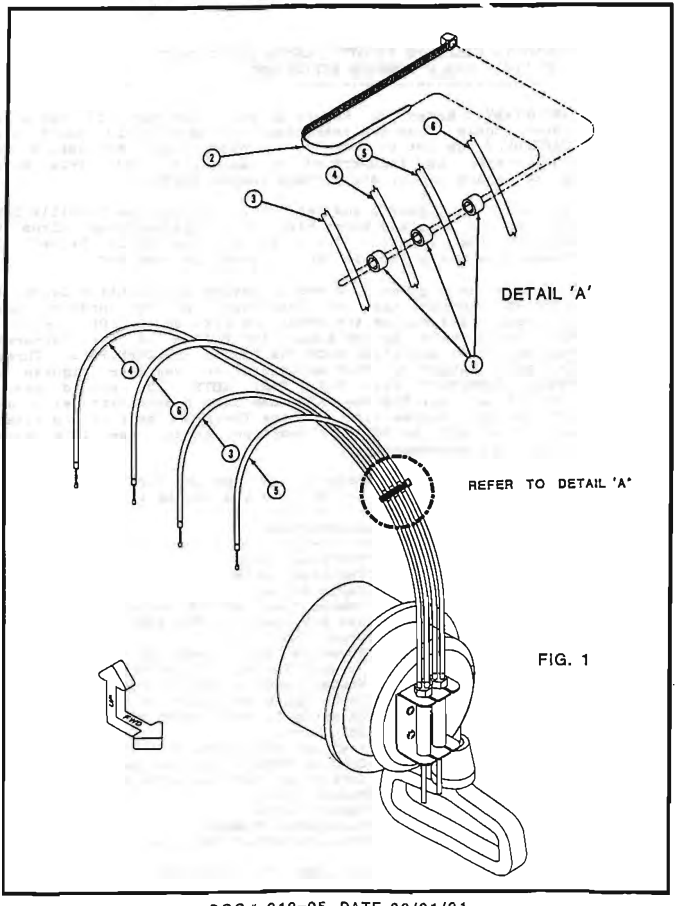


FIG. 1

THROTTLE CABLE TO THROTTLE LEVER ATTACHMENT AND CHOKE CABLE FORWARD ATTACHMENT

IMPORTANT: Refer to Figure 5. Route the throttle cable and choke cable from the powerplant to the throttle mount plate CAREFULLY as not to "kink" the cables. Secure the cables with tie wraps, as illustrated in section 1, away from moving parts, sharp edges, and extreme temperatures.

1. Refer to Figure 1 and Detail 'A'. Attach the Throttle Cable (2) to the Throttle Mount Plate (7) as illustrated. Slide the end of the Throttle Cable (2) into the Cable Swivel (3). Ensure the Cable Ferrule (16) is properly "seated".

2. Refer to Figures 1, 3 and 4. Rotate the Throttle Lever (1) FORWARD. Adjust the Jam Nuts (12) on the Conduit Thread Adjuster (13) and/or the Adjusters (14) on the TOP of each of the Carburetors as to ensure the BOTTOM of the Carburetor Pistons (17) are LEVEL with the TOP of the Carburetor Throats at FULL THROTTLE. When adjustment is complete tighten the "FULL THROTTLE" Stop Bolt (18). NOTE: You should hear a "click" as the Pistons (17) come into contact with with each of the Idle Screws (11) when the Throttle Lever (1) is rotated into the AFT or "CLOSED" position. Adjust the idle screws EVENLY (if necessary).

3. Insert the Choke Cable (6) through the Throttle Mount Plate (7) and install items (4, 5, 8, 9 and 10) as illustrated.

Item	P/N	Qty	Description
1	90215		Throttle Lever
2	45811		Throttle Cable
3	90250		Cable Swivel
4			Washer (part of P/N 45814)
5			Jam Nut (part of P/N 45814)
6	45814		Choke Cable
7	45475		Throttle Mount Plate (GT 400)
	45482		Forward Throttle Mount Plate (GT 500)
8			Washer (part of P/N 45814)
9			Choke Cable Nut (part of P/N 45814)
10			Choke Cable Knob (part of P/N 45814)
11			Idle Screw
12			1/4" Jam Nut (part of 45811)
13			Conduit Thread Adjuster part of P/N 45811
14			Carburetor Trottle Cable Adjuster
15			Rubber Boot
16			Cable Ferrule
17			Carburetor Piston
18			"Full Throttle" Stop Bolt

THROTTLE CABLE TO THROTTLE LEVER ATTACHMENT
AND CHOKE CABLE FORWARD ATTACHMENT

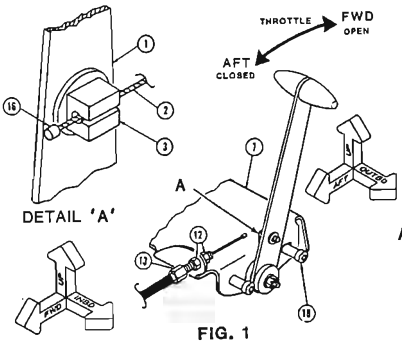


FIG. 1

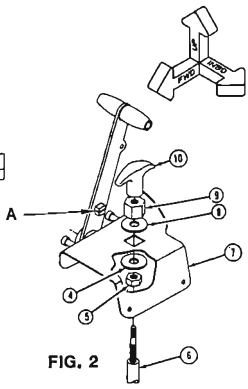


FIG. 2

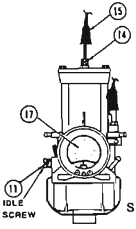


FIG. 3

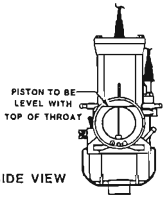


FIG. 4

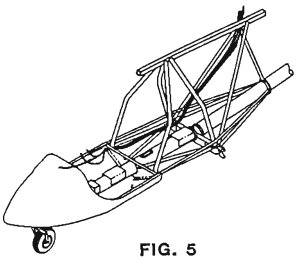


FIG. 5

SOME PARTS NOT
SHOWN FOR CLARITY.

AIR FILTER ATTACHMENT

IMPORTANT: Before starting the following assembly sequence cover ALL openings of the Carburetor (5). DO NOT allow any metal filings from drilling and deburring to get into the carburetor.

1. Refer to Figures 1 and 2 and locate the Carburetor Tab (6) attached to the side of the Carburetor (5). Drill and deburr a 1/8" (3.2 mm) diameter hole thru the Carburetor Tab (6) as illustrated.

2. Refer to Figure 1. Cut a 12" (304.8 mm) piece of Safety Wire (1). Insert ONE end thru the TOP side of the Air Filter (just OUTBOARD) of where the Air Filter Clamp (4) will be located). Wrap the safety wire around ONE coil of the Internal Spring (3) then route the safety wire so it is CENTERED with EQUAL amounts of Wire on each side of the Spring.

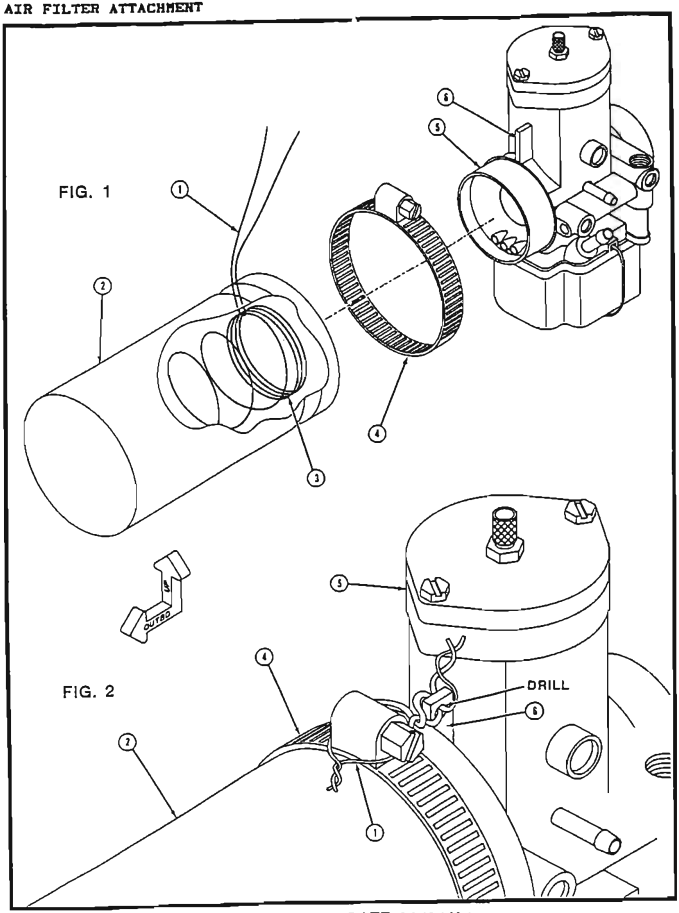
3. Refer to Figure 2. twist the Safety Wire (1) as illustrated. Loosen the Clamp (4) if necessary and slide it over the end of the Air Filter (2). Ensure the Screw/Nut assembly is at the UPPER side. Pull the end of the Spring SLIGHTLY out of the Air Filter and ensure there are a MINIMUM of SIX coils of the Spring (3) wrapped around the 'throat' or inlet side of the Carburetor. Position the clamp directly over the SIX springs and butted up against or touching the Tab (6) on the Carburetor. Tighten the screw on the Clamp (3) until TIGHT.

4. Twist the Safety Wire (1) ONE AND A HALF to TWO turns as illustrated and route it around the Screw/Nut at the UPPER side of the Clamp. Twist the safety wire again BEFORE inserting it thru the previosly drilled hole in the Carburetor Tab. Insert each end of the safety wire thru the hole. Secure the safety wire. Refer to 'Safety Wire' in SECTION 1 of your aircraft assembly instructions if necessary.

5. Repeat Steps 1-4 on the remaining Carburetor.

Item	P/N	Qty	Description
1.	20467	A/R	.041" Safety Wire
2.	60000	2	Air Filter
3.			Internal Spring (part of P/N 60000)
4.			Air Filter Clamp (part of P/N 60000)
5.	00996417	1	Bing Model 54/36 mm Carburetor (part of P/N 61085)
6.			Carburetor Tab

AIR FILTER ATTACHMENT



RECTIFIER/REGULATOR ATTACHMENT AND POWERPLANT WIRING

1. Attach the Rectifier/Regulator (1) as illustrated. Tighten ALL Locknuts (5) to proper torque.

2. Refer to Detail 'A'. Identify the YELLOW and the YELLOW/BLACK wires from the powerplant. Cut off the EXISTING FEMALE connectors and install (by crimping) the Insulated Female Wire Connectors (6). LIGHTLY pull on the Wire Connectors to verify the Wire Connectors are secure.

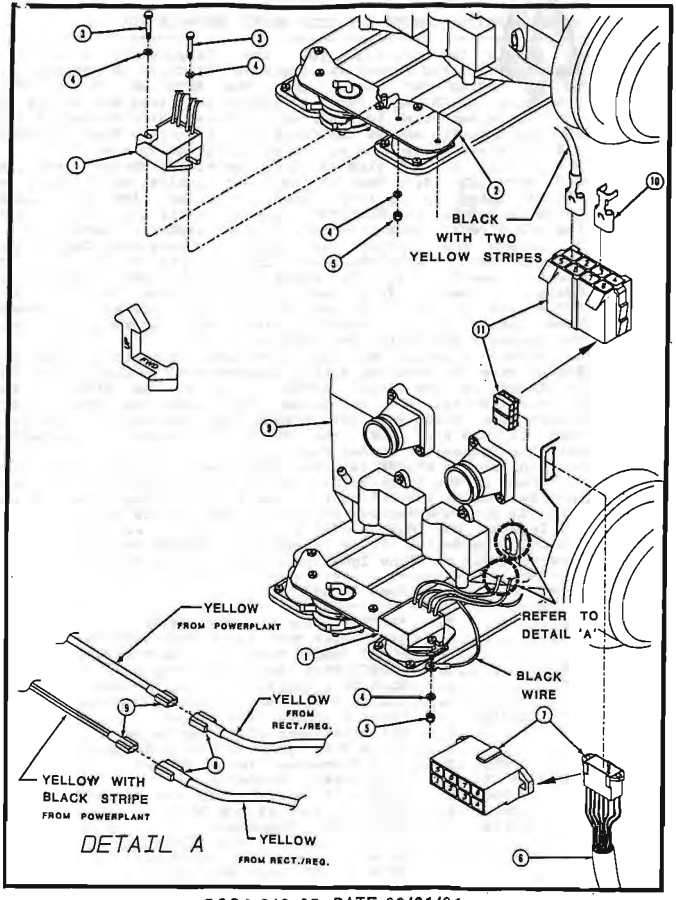
3. Install (by crimping) the Insulated Male Wire Connectors (5) on the YELLOW Wires from the Rectifier/Regulator (7).

4. Identify the FEMALE Connector Housing (1). CAREFULLY determine which side is the TOP by comparing it to the illustration. Insert the wires from the powerplant direction. Wires without connectors (10) install as required.
1 - BLACK with TWO (2) YELLOW Stripes (1 of 2 from Powerplant)
2 - RED from Regulator/Rectifier
3 - BLACK (from the Temperature Sensor)
4 - BLANK (leave empty)
5 - BLACK with TWO YELLOW Stripes (1 of 2 from the Powerplant)
6 - BROWN (from the powerplant)
7 - WHITE (from the Temperature Sensor)
8 - GREY (from the powerplant)

5. Identify the MALE Connector Housing (2). CAREFULLY determine which side is "as illustrated" and insert the MALE Connectors from the Wiring Harness (11) as follows:
1 - BLUE (LEFT Magneto)
2 - RED (DC POSITIVE)
3 - BLACK (Temperature Gauge)
4 - ORANGE (Electric Start)
5 - YELLOW (RIGHT Magneto)
6 - BROWN (DC NEGATIVE)
7 - WHITE (Temperature Gauge)
8 - GREEN (Tachometer)
6. Connect BOTH of the Housings (1) and (2) together at the powerplant as illustrated. Secure ALL wiring AWAY from ANY SHARP edges, MOVING parts, or EXTREME temperatures.

Item	P/N	Qty	Description
1	00866080	1	Rectifier/Regulator
2	45858		Fuel Pump Mount Plate
3	10020	2	AN3-7A Bolt
4	10550	4	3/16" Washer
5	10500	2	3/16" Locknut
6	45631	1	Wiring Harness
7	00866010	1	Male Connector Housing
8	30080	2	Male Snap Connector
9	30070	2	Female Snap Connector
10	30075	1	Female Locking Wire Connector
11	00866025	1	Female Connector Housing

RECTIFIER/REGULATOR ATTACHMENT AND POWERPLANT WIRING

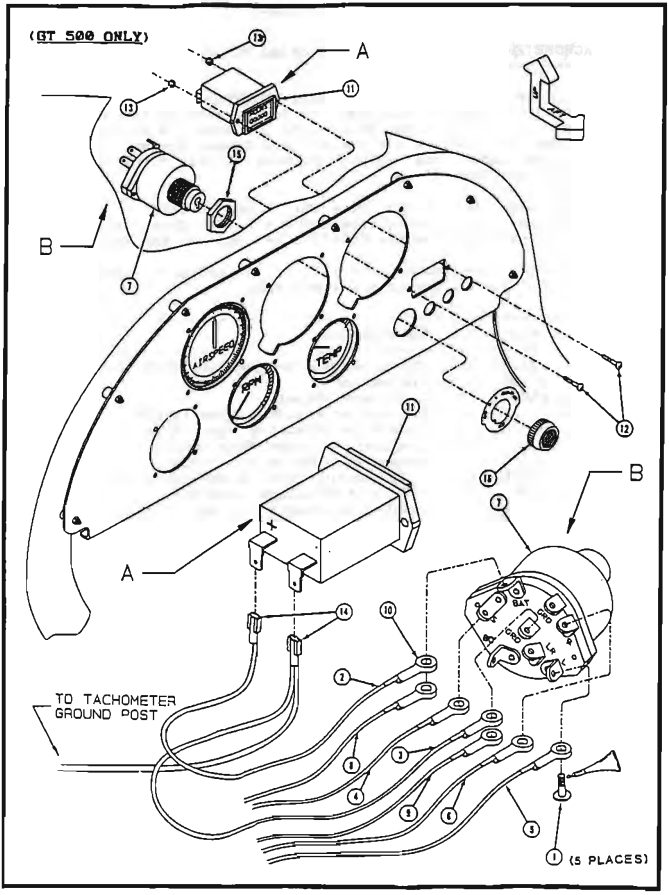


KEYED IGNITION SWITCH AND HOUR METER INSTALLATION

1. Locate the wiring for the Temperature Gauge (not illustrated) and remove the RED wire (2) from its package. Cut an 8" (20.32 cm) piece with the EXISTING "Molex" Wire Connector on ONE end. Cut a 4" (10.16 cm) piece and splice the 8" (20.32 cm) piece together with a Female Wire Connector (14) on the opposite end as the Connector. Install a Ring Connector (10) to the opposite end of the 4" (10.16 cm) piece.
2. Install the RED wire (8) from the Wiring Harness and the RED wire (2) (Ring End) to the "BAT" terminal on the BACK of the Ignition Switch (7). Install the RED wire (2) FEMALE Connector onto the POSITIVE (+) post on the Hour Meter (11). The RED wire (2) with Connector will be installed later.
3. Locate the wiring for the Temperature Gauge (not illustrated). REMOVE the BLACK wire from its package. Cut a 4" piece. Install a Ring Connector (10) to ONE end. Remove the "Molex" Connector from remaining BLACK wire (approx. 10") (25.4 cm). Splice the 4" and 10" (3) BLACK wire with a Female Wire Connector (14). Install a Female Wire Connector (14) onto the opposite end of the 10" BLACK wire (3).
4. Refer to Detail 'B'. Attach the Ring Connectors from the BROWN wire (9) from the Wiring Harness and the BLACK wire (3) (4"piece) to the "GRD" (GROUND) post on the BACK of the Ignition Switch (7) as illustrated. Refer to Detail 'A', Attach the BLACK wire (3) (Female Connector end) to the (-) Post of the Hour Meter. The 10" BLACK wire will be installed onto the Tachometer Ground Post later.
5. Connect the ORANGE (4) wire from the Wiring Harness to the "S" Post of the Ignition Switch (7) and the BLUE wire (5) from the Harness to the "L" post of the Switch. Connect the YELLOW wire (6) from the Harness to the "R" post of the Switch.
6. Install the Hobbs (11) into the panel as illustrated. Install the Switch (7) as illustrated. Adjust the Jam Nut (15) appropriately to allow Ignition Cover Nut (16) to tighten.

Item	P/N	Qty	Description
1		5	#4 Screw (part of P/N 30315)
2			RED Jumper Wire (part of P/N 90125)
3			BLACK Jumper Wire (part of P/N 90125)
4		1	ORANGE Wire (part of Wiring Harness)
5		1	BLUE Wire (part of Wiring Harness)
6		1	YELLOW Wire (part of Wiring Harness)
7	30315	1	Keyed Dual Ignition Switch
8		1	RED Wire (part of Wiring Harness)
9		1	BROWN Wire (part of Wiring Harness)
10	30073	2	Ring Connector (for #4 Screw)
11	90120	1	Hour Meter, (Hobbs)
12	11065	2	6-32 x 1" Phillips Hd Screw (w/ P/N 90120)
13	10067	2	Locknut (part of P/N 90120)
14	30070	3	Female Wire Connector
15		1	Jam Nut (part of P/N 30315)
16		1	Cover Nut (part of P/N 30315)

KEYED IGNITION SWITCH AND HOUR METER INSTALLATION



TACHOMETER AND CYLINDER HEAD TEMPERATURE GUAGE INSTALLATION

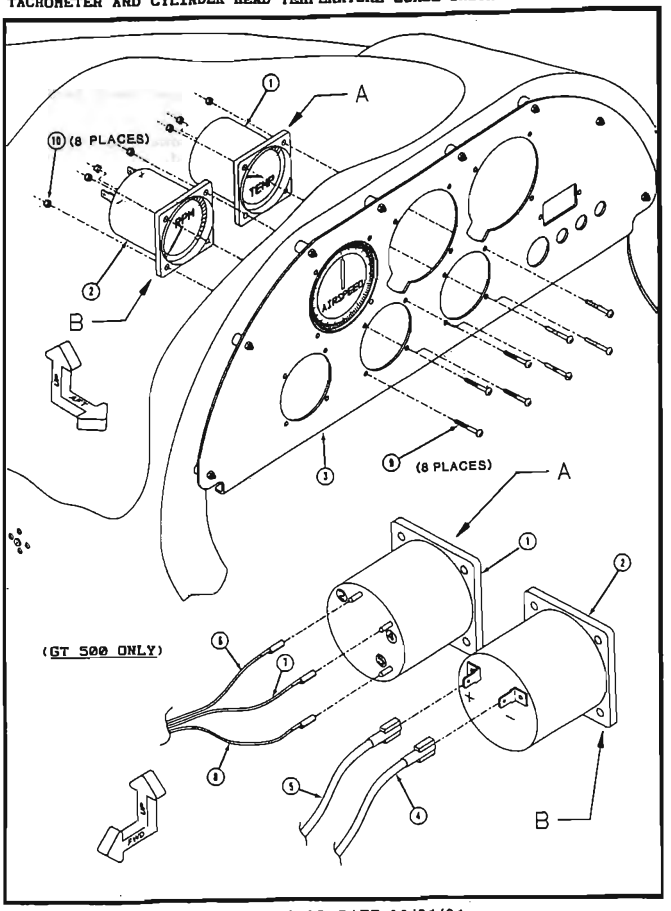
1. Install the RED wire (7) from the POSITIVE (+) side of the Hour Meter (not illustrated) to the #4 post of the Temperature Gauge (1). Connect the BLACK wire (8) form the Wiring Harness to the #5 post of the Temperature Gauge. Connect the WHITE wire (6) from the Wiring Harness to the #2 post on the Temperature Guage.

2. Connect the GREEN Wire (5) to the POSITVE (+) side of Tachometer (2). Connect the BLACK Wire (4) from the Hour Meter (not illustrated) to the NEGATIVE (-) post on the Tachometer.

3. Install the Instruments (1) and (2) using the hardware (9) and (10). Secure the hardware properly.

Item	P/N	Qty	Description
1	90126	1	Cylinder Head Temperature (CHT) Guage
2	90128	1	Tachometer
3	45574		Instrument Panel
4			Tachometer Negative Wire (BLACK)
5			Tachometer Positive Wire (GREEN)
6			Temperature Guage Wire (WHITE)
7			Temperature Guage Wire (RED)
8	11067	8	6-32 Locknut [with Instruments (1) and (2)].
9	11065	8	6-32 x 1" Phillips Head Screw [with Instruments (1) and (2)].

TACHOMETER AND CYLINDER HEAD TEMPERATURE GUAGE INSTALLATION



INSTRUMENT PANEL COVER PLATE ATTACHMENT

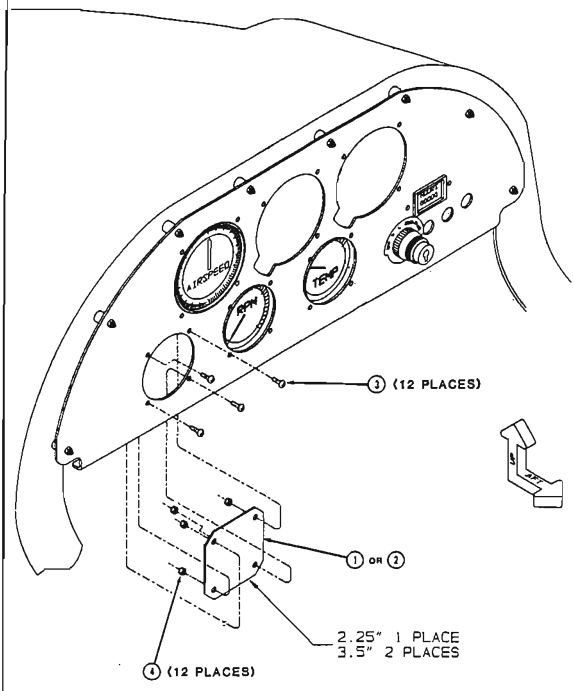
1. Attach ONE Cover Plate (1) to the Instrument Panel (5) as illustrated. Tighten ALL Locknuts.

2. Attach TWO Cover Plates (2) to the remaining TWO Instrument cut-out holes in the Panel as illustrated.

Item	P/N	Qty	Description
1	90148	1	2 1/4" Cover Plate
2	90149	2	3 1/8" Cover Plate
3	11066	12	6-32 x 1/2" (PPH) Screw
4	11067	12	6-32 (Nylock) Locknut
5	45574		Instrument Panel

INSTRUMENT PANEL COVER PLATE ATTACHMENT

(GT 500 ONLY)



PULL STARTER ROPE ROUTING AND PULL STARTER HANDLE ATTACHMENT

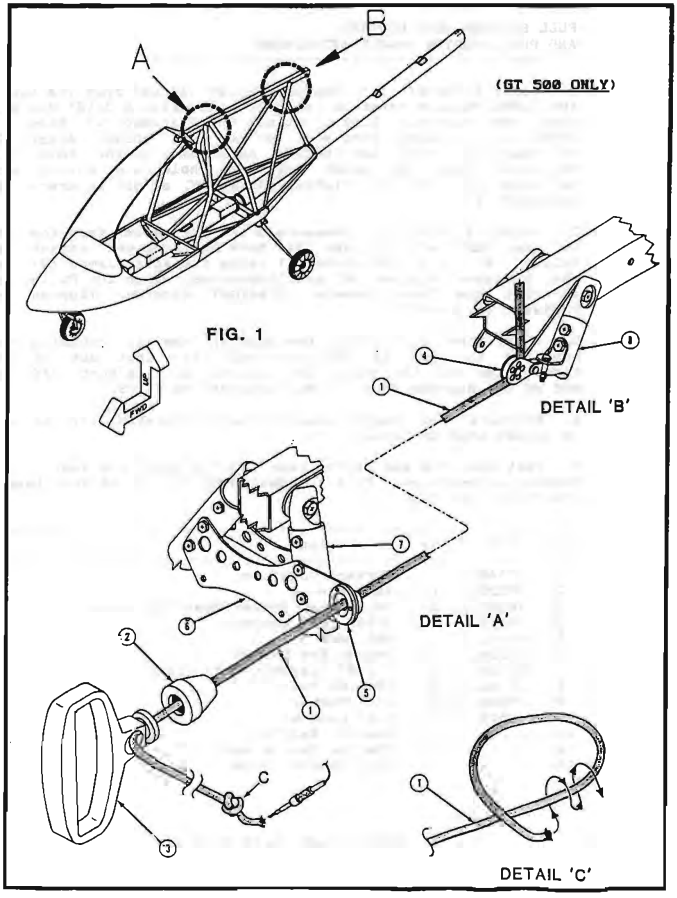
1. Slide the Boot (2) up the Starter Rope (1) exposing the knot in the end of the Rope. Pull the knot out of the indentation in the Handle (3) and heat-cut the knot off the end of the Starter Rope. DO NOT BREATHE THE FUMES.

2. Re-route the Starter Rope (1) as illustrated. Tie the end as illustrated in Detail 'C'.

3. Heat seal the end of the Rope and "re-seat" the knot in the Handle indentation. Pull the Boot OVER the end of the Handle and Secure the Boot.

Item	P/N	Qty	Description
1	00952799		Pull Starter Rope (part of P/N 61085)
2	00960415		Boot (part of P/N 61085)
3	00852715		Handle (part of P/N 61085)
4	20228		Swivel Eye Pulley
5	20236		1/2" Aluminum Fairlead
6	45429		Forward Seat Belt Bracket
7	45471		Left Forward Fuselage Downtube
8	45465		Aft Downtube

PULL STARTER ROPE ROUTING
AND PULL STARTER HANDLE ATTACHMENT



PULL STARTER ROPE ROUTING AND PULL STARTER HANDLE ATTACHMENT

1. Refer to Detail 'A'. Measure 5-1/2" (14 cm) from the top of the LEFT Forward Downtube (1). Mark and drill a 3/16" dia hole thru the tube (1). Lightly attach the Fairlead (2) thru its UPPER hole, using hardware (3) and (4) shown. Align the Fairlead (2) with the VERTICAL centerline of the tube (1). Backdrill thru the Lower Fairlead hole and attach with hardware (3) and (4). Tighten CAREFULLY, as not to crack the Fairlead (1).

2. Refer to Detail 'B'. Measure 4-1/4" (11.4 cm) from the TOP of the LEFT Aft Downtube (5). Mark the tube and attach the Pulley (6) to the Downtube (5) using the Half Clamps (7) and the hardware (8,9 and 10) as illustrated. Align the Pulley (6) so that the Rope travels STRAIGHT through. Tighten the hardware (8,9 and 10).

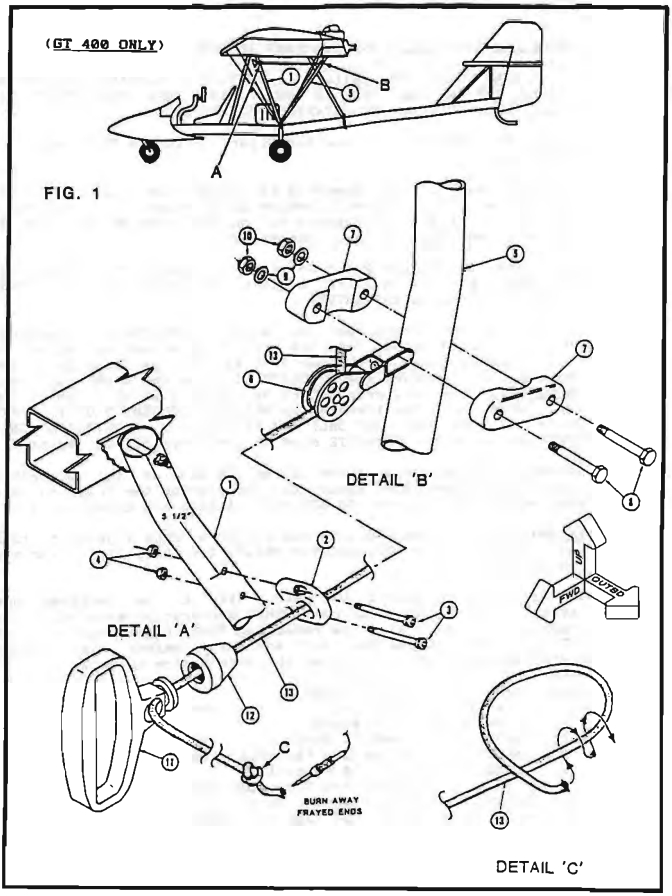
3. Slide the Boot (2) up the Starter Rope (1) exposing the knot in the end of the rope. Pull the knot out of the indentation in the Handle (3) and heat-cut the knot off the end of the Starter Rope. DO NOT BREATHE THE FUMES.

4. Re-route the Starter Rope (1) as illustrated. Tie the end as illustrated in Detail 'C'.

5. Heat seal the end of the rope and "re-seat" the knot in the handle indentation. Pull the Boot OVER the end of the handle and secure the Boot.

Item	P/N	Qty	Description
1	45440		Forward Downtube
2	20239	1	Fairlead
3	10392	2	10-32 x 2" Socket Head Cap Screw
4	10516	2	3/16" Thin Locknut
5	45441		Aft Downtube
6	20228	1	Swivel Eye Pulley
7	91120	2	1-1/8" Diameter Half Clamp
8	10140	2	AN4-16A Bolt
9	10560	2	1/4" Washer
10	10510	2	1/4" Locknut
11			Starter Handle
12			Starter Handle Boot
13			Pull Starter Rope

PULL STARTER ROPE ROUTING
AND PULL STARTER HANDLE ATTACHMENT



PROPELLER ATTACHMENT AND TRACKING ADJUSTMENT

ESSENTIAL: Reed "Propeller" in SECTION 1 BEFORE PROCEEDING. ALWAYS ASSUME THE PROP IS 'HOT'! LABEL THEN DISCONNECT ALL SPARK PLUG WIRES BEFORE ROTATING THE PROPELLER.

NOTE: The AFT side of the Propeller (4) is the FLAT side of the blades.

1. Refer to Figure 1. Assemble as illustrated. Tighten ALL SIX (6) Bolts (2) until the Propeller fits 'snuggly'. Use up to a MAXIMUM of THREE (3) Washers (1) on each side of the bolt to ensure proper grip length if necessary.

2. Refer to Figure 2 and Detail 'A'. Tighten the Bolts (2) CAREFULLY and ALTERNATELY, 'A LITTLE AT A TIME'. DO NOT CRUSH THE WOOD. DO NOT OVERTIGHTEN.

3. Rotate the Propeller (4) into a HORIZONTAL position. Measure the distance from the tip of the propeller blade to the Trailing Edge Wing Spar (7). Rotate the Propeller 180 degrees and measure the OPPOSITE blade at the SAME location. IMPORTANT: The difference MUST be within 1/8" (3.2 mm). You can 'fine tune' the tracking by SLIGHTLY LOOSENING ONLY THREE Bolts (2) on ONE SIDE ONLY and by SLIGHTLY TIGHTENING ONLY THREE bolts on the OPPOSITE side of the propeller as required.

EXAMPLE: Loosen the bolts (2) on the side of the propeller closest to the RIGHT blade only and tighten the Bolts on the side of the LEFT blade. DO NOT over tighten and crush the wood.

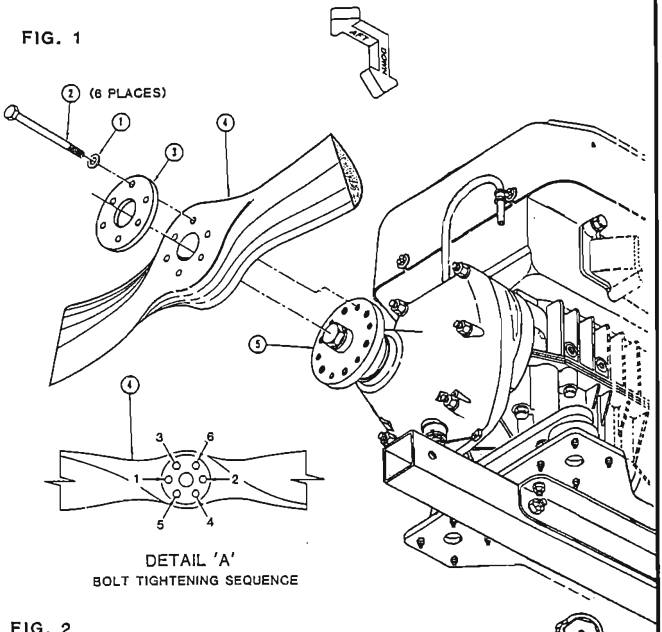
IMPORTANT: If the measurements DIFFER by MORE THAN 1/8" (3.2 mm). Consult your QUICKSILVER Dealer for 'Propeller Tracking Procedure'.

4. Refer to Figure 3. Use Safety Wire (6) as required and safety wire the heads of only THREE consecutive prop Bolts (2) together. Saftey wire the remaining THREE bolts together. DO NOT use any object that will score the safety wire during installation as this may cause the safety wire to fail.

Item	P/N	Qty	Description
1	10560	A/R	1/4" Washer
2	11090	6	AN4H27A Bolt
3	45852	1	Propeller Face Plate (part of P/N 61080)
4	30350	1	68 x 30 Propeller
5			Reduction Drive Hub (part of P/N 61080)
6	20467	A/R	.041" Safety Wire
7	80201		Trailing Edge Wing Spar Assembly

PROPELLER ATTACHMENT AND TRACKING ADJUSTMENT

FIG. 1



DETAIL 'A'
BOLT TIGHTENING SEQUENCE

FIG. 2

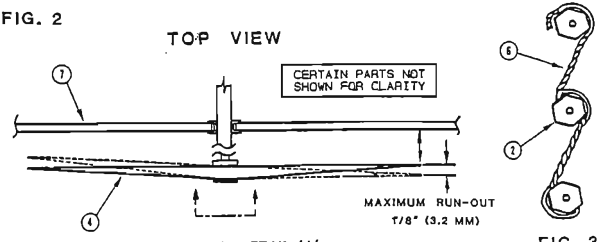


FIG. 3

SPARK PLUG WIRE ATTACHMENT

1. Attach ALL FOUR [4] spark plug wires to their repective spark pluge.

EXAMPLE: The LONGEST plug wires attach to the AFT Spark Plug. The SHORTEST plug wires attach to the FORWARD spark plug.

NOTE: Refer to your powerplant (Rotax 503) Operators Manual for proper attachment of ALL FOUR spark plug wires to the appropriate spark plugs if necessary.

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NOTES:

POWERPLANT BREAK-IN PROCEDURE

NOTE: A tachometer (RPM) and temperature sensing gauge MUST be attached to the powerplant during the break-in procedure. You may order both from your Quicksilver dealer.

VERY IMPORTANT: STUDY AND UNDERSTAND THE ROTAX OPERATORS MANUAL THOROUGHLY BEFORE STARTING THE POWERPLANT!!!

1. The powerplant break-in procedure takes APPROXIMATELY ONE HOUR and SEVENTEEN MINUTES which should be completed WITHOUT INTERRUPTION. The break-in procedure must be done with the POWERPLANT ON THE AIRCRAFT AND LOADED WITH THE PROPELLER ATTACHED PROPERLY.

2. SECURE THE TAIL OF THE AIRCRAFT CAREFULLY BY TYING THE VERTICAL STABILIZER TRAILING EDGE (RUDDER POST) TO A FIXED OBJECT.

Refer to the graph for break-in time and R.P.M. correllation.

IMPORTANT: Use a BIA/TCW rated **TWO-CYCLE** oil with the fuel only! The fuel to oil mixture ratio should be 50 to 1.
(U.S.): 5 U.S. gallons of fuel to 12.8 oz. of oil.
(Metric): 20 liters of fuel to 400 ml. of oil.

CAUTION: If at any time during the engine break-in procedure the RPM accelerates suddenly or the ENGINE TEMPERATURE approaches the powerplant manufacturers' limits, THROTTLE BACK SMOOTHLY to a low RPM setting and allow the engine to cool.

IMPORTANT: After the break-in procedure and the powerplant cools completely:

1. Re-Torque the exhaust manifold bolts to 210 in/lbs (24 Nm).

2. Re-Torque and re-track the propeller.

3. Adjust the idle (large screws) on the carburetors for idle speed (approximately 1800 R.P.M.).

4. Adjust the air screw (small screws) on the carburetors for a smooth idle.

5. After the powerplant has been 'normalized' (heated and cooled) THREE times, re-torque the cylinder head nuts to 220 in/lbs (24.5 Nm).

ENJOY FLYING YOUR NEW QUICKSILVER AIRCRAFT.

POWERPLANT BREAK-IN PROCEDURE

