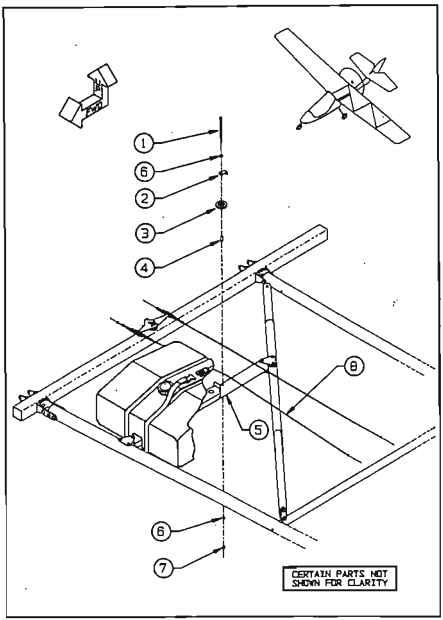
QUICKSILVER
ENTERPRISES, INC.
A Public Corporation

GT500

LONG RANGE FUEL TANK KIT ASSEMBLY INSTRUCTIONS

FOR USE WITH KIT # 91430



DOC # 922-03 DATE 10/15/92

World's Largest Manufacturer of Recreational Aircraft
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LONG RANGE FUEL TANK INSTALLATION INSTRUCTIONS

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QUICKSILVER GT 500 LONG RANGE FUEL TANK KIT

INTRODUCTION

The Quicksilver GT 500 Long Range Fuel Tank Kit (P/N* 91430) utilizes the same high quality parts used throughout the Quicksilver line of aircraft.

The Long Range Fuel Tank Kit includes all of the necessary parts required to convert the standard GT 500 to the Long Range model.

Please note this conversion kit utilizes the existing Fuel Tank and some of the existing hardware.

The Quicksilver GT 500 aircraft is designed to use either a single 8.5 U.S. gallon Fuel Tank mounted on the Root Tube or two 8.5 gallon Fuel Tanks, one mounted in each inboard wing section.

The use of any other combination is NOT approved by Quicksilver Enterprises at this time.

Before starting the conversion process, complete the following steps:

NOTE: Refer to the GT 500 Assembly Instructions (DOC# 902-01) as required.

1. Remove the Gap Cover. Unbuckle and separate the wing covers. Remove any INBOARD upper wing ribs as required in order to separate the wing covers sufficiently to allow installation of the Fuel Tanks. Use a large flathead screwdriver to lever each Rib into position to be removed. Cover each plastic aft Rib Tip with a shop cloth then carefully pull out each Rib as necessary using a pair of Vise Grips.

2. Remove the EXISTING Fuel Tank and Fuel Tank Restraint Strap. Set them aside, as they will be installed later as part of the RIGHT Wing Fuel Tank Assembly. The EXISTING fittings will be utilized as required.

* Part Number

FUEL TANK SUB-ASSEMBLY

1. Before continuing with the following assembly sequence, ensure BOTH the NEW and EXISTING Fuel Tanks (1) are clean and free of any contaminants or particles which may evenually restrict or block the flow of fuel. Use an air hose if one is available to blow out any foreign particles if present.

2. Carefully trim BOTH ridges off of the FOUR internally threaded fuel tank nipples with a razor blade to ensure the Clamps (2) are installed correctly.

3. Slide a Clamp (2) over each nipple.

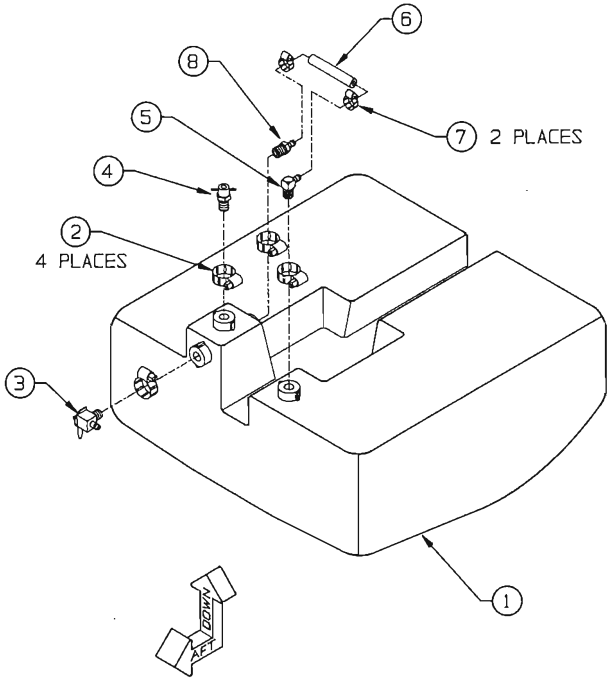
4. Assemble as illustrated. Install, but DO NOT overtighten the threaded fittings (3, 4, 5, and 8). After positioning the fittings as illustrated. Tighten the Clamps (2) but DO NOT over tighten.

5. Repeat Steps 2 thru 4 on the EXISTING Fuel Tank. Remove any fittings as required to install THREE Clamps (2) correctly. Trim the ridges off of the THREE nipples on the EXISTING Fuel Tank if the aircraft's Fuel Tank is so equipped. Reinstall the fittings with the Clamps installed. Tighten the Clamps securely but DO NOT overtighten.

NOTE: The quantity (Qty) indicated below reflects installation of ONE Fuel Tank only EXCEPT for Item #2, which reflects BOTH Fuel Tanks.

Item	P/N	Qty	Description
1	30254	1	8.5 Gallon Fuel Tank Assembly
2	20426	7	#10 Stainless Steel Hose Clamp
3	30282	1	Fuel Cut Off Valve
4	30273	1	Fuel Tank Drain Valve
5	30275	1	1/4" Hose I.D., 1/4" MNPT Elbow
6	30220	A/R*	Fuel Line
7	30230	2	Fuel Line Clamp
8	30274	1	1/4" MPT x 1/4" Fuel Hose Adaptor

* As Required


6
8
5
7 2 PLACES
4
2
4 PLACES
3
1
DOWN
AFT

INBOARD DIAGONAL STRUT SLEEVE INSTALLATION

1. Refer to SECTION 7 (Final Assembly) or SECTION 8 (Field Assembly) of the GT 500 Assembly Instructions (DOC# 902-01) if necessary. Remove the Gap Cover. Unbuckle the Wing Cover. Pull the Wing Cover halves OUTBOARD, APPROXIMATELY to the INBOARD Compression Strut or enough to allow access to install each of the Fuel Tanks (not illustrated).

2. Loosen the TWO Locknuts at the FORWARD end of the Diagonal Strut (2). Remove the Bolt located at the AFT end of the Diagonal Strut Fitting. Remove the Diagonal Strut.

3. Slide the Inboard Diagonal Strut Sleeve (3) over the Inboard Diagonal Strut (2).

NOTE: The end with the TWO 3/16" (4.8 mm) diameter holes closest toward the end of the Sleeve goes AFT. Position the AFT end of the Sleeve EXACTLY 10" (25.4 cm) from the AFT END of the Diagonal Strut (2) and **NOT the end of the Diagonal Strut Fitting**.

4. Make a pencil mark on the TOP of the INBOARD Diagonal Strut at the AFT end of the Diagonal Strut Sleeve (3). Align the TWO 3/16" (4.8 mm) diameter holes VERTICALLY with the TOP CENTERLINE of the Inboard Diagonal Strut.

5. Use the EXISTING holes in the Inboard Diagonal Strut Sleeve as a guide and back-drill thru BOTH locations with a 3/16" (4.8 mm) diameter drill bit. Deburr the holes in the Strut.

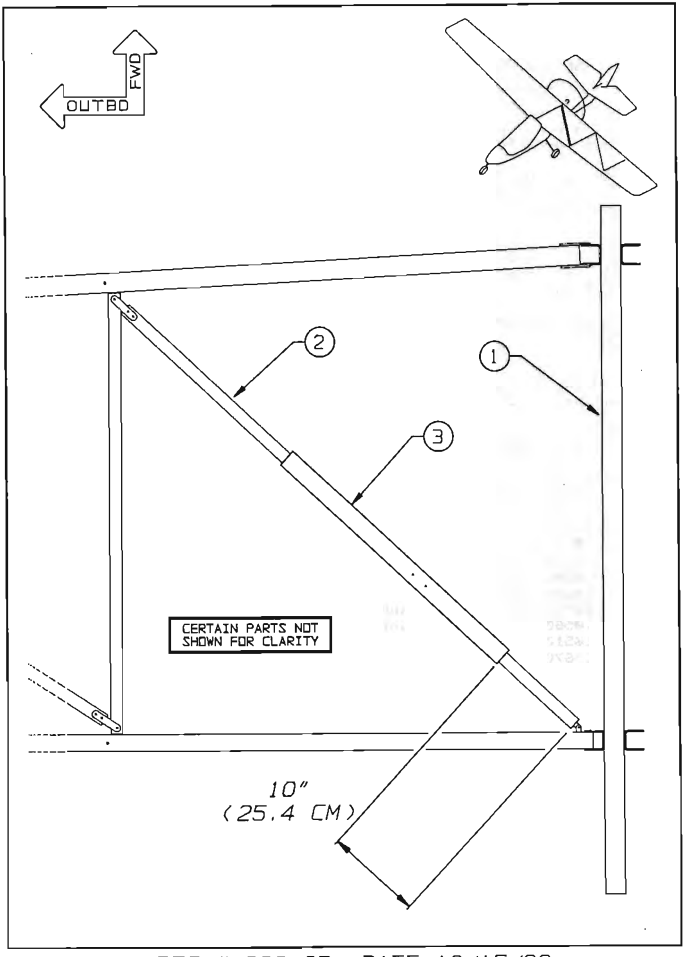
IMPORTANT: The holes must be drilled 'in line' with the EXISTING holes at the FORWARD end of the Diagonal Strut. Use the TWO holes in the FORWARD end of the Diagonal Strut and the hole in the Eyebolt installed into the Diagonal Strut Fitting at the AFT end as a guide.

6. Reinstall the Sleeved Strut (3) as illustrated with NEW Locknuts (4) (not illustrated) which are supplied with this kit. Tighten BOTH Locknuts at the FORWARD end of the Diagonal Strut to CORRECT torque. AFT end to PROPER torque. DO NOT distort the Diagonal Strut.

7. Repeat on the opposite (RIGHT) wing in 'mirror image'.

NOTE: The quantity (Qty) indicated below reflects installation of BOTH Fuel Tanks.

Item	P/N	Qty	Description
1	45668		Root Tube
2	45670		Inboard Diagonal Strut
3	45671	2	Inboard Diagonal Strut Sleeve
4	10500	6	3/16" Nylock Nut (not illustrated)



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FUEL TANK SUPPORT TUBE INSTALLATION

1. Attach the Gusset Plates (2) to the Inboard Diagonal Strut (12) using the hardware (1, 3, 4, 6, and 7) as illustrated. Tighten to CORRECT torque. DO NOT distort the strut.

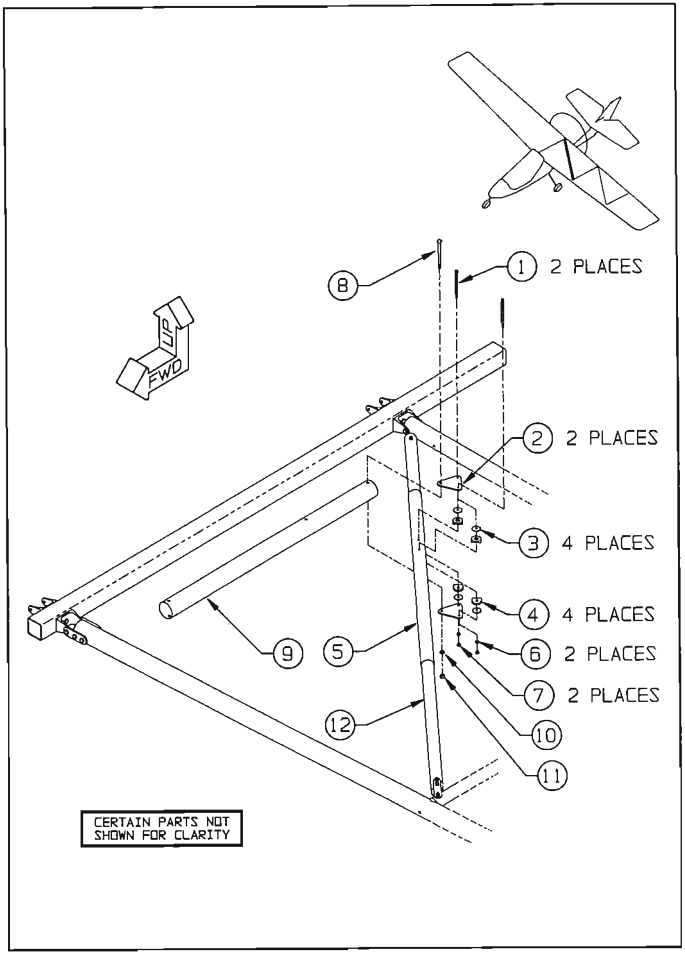
2. Attach the Fuel Tank Support Tube (9) to the Inboard Diagonal Strut (12) with the hardware (8, 10, and 11) as illustrated. Tighten to CORRECT torque. DO NOT distort the tube.

NOTE: The Fuel Tank Support Tube (9) has a hole drilled near the middle of the tube. Install the tube with this hole closest to the AFT end.

3. Repeat steps 1 and 2 on the opposite (RIGHT) wing in 'mirror image'.

NOTE: The quantity (Qty) indicated below reflects the installation of BOTH Fuel Tanks.

Item	P/N	Qty	Description
1	10055	4	AN3-24A Bolt
2	46510	4	Wing Tank Gusset Plate
3	10563	8	3/16" Fender Washer
4	20289	8	1 1/2" x .25 H x .20 THK Saddle
5	45671		Inboard Diagonal Strut Sleeve
6	10550	4	3/16" Washer
7	10500	4	3/16" Nylock Nut
8	10220	2	AN4-24A Bolt
9	46525	2	Fuel Tank Support Tube
10	10560	2	1/4" Washer
11	10510	2	1/4" - 28 Locknut
12	45670		Inboard Diagonal Strut


8
1 2 PLACES
FWD
UP
2 2 PLACES
3 4 PLACES
4 4 PLACES
9
5
6 2 PLACES
7 2 PLACES
12
10
11
CERTAIN PARTS NOT SHOWN FOR CLARITY

FUEL TANK CHANNEL INSTALLATION

1. Position the Wing Tank Support Channel (4) onto the Fuel Tank Support Tube (5) as illustrated. Use the EXISTING 1/4" (6.4 mm) diameter hole in the Channel as a guide and align it with the pre-drilled hole in the Fuel Tank Support Tube.

2. Temporarily position the Channel (4) on to the Fuel Tank Support Tube (5) as illustrated using a Bolt (1) only. Ensure the Channel is contacting the tube correctly. Using the EXISTING holes in the side of the Channel as a guide, hold pressure on the TOP of the Channel and drill FOUR 3/16" (4.8 mm) diameter holes into the Fuel Tank Support Tube for Rivets (7). Temporarily remove the Channel and deburr the holes with an oversized drill bit. Reposition the Channel. Temporarily insert a Rivet after drilling each hole. DO NOT 'pop' the Rivets at this time.

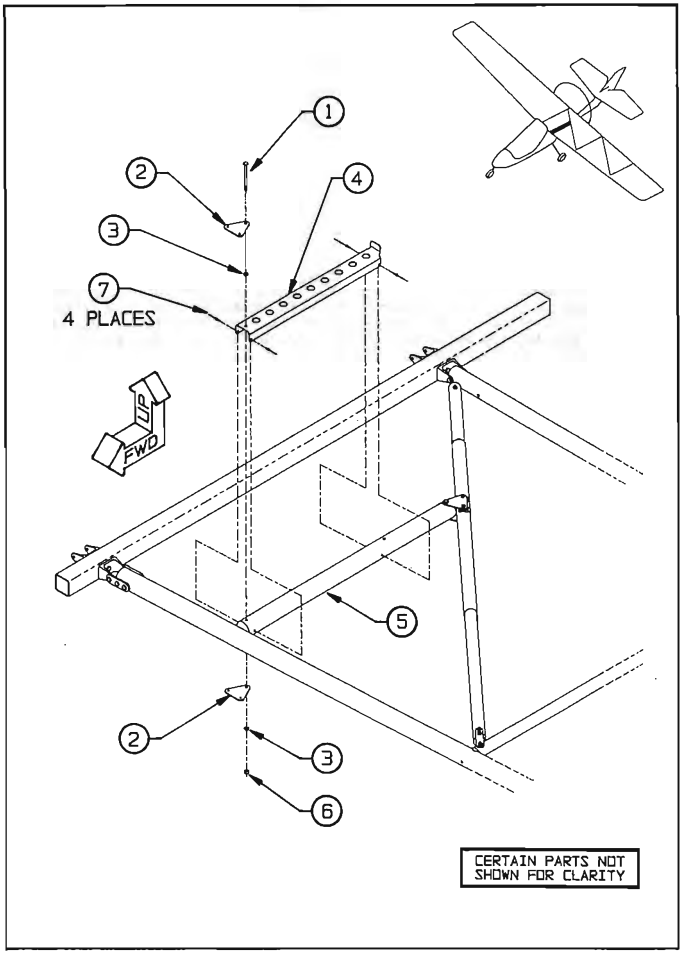
3. After all FOUR holes have been drilled, CAREFULLY remove the Rivets (7) and Bolt (1). LIGHTLY deburr the FOUR holes in the tube with an oversized drill bit.

4. Position the Wing Tank Support Channel (4) onto the Fuel Tank Support Tube (5) and attach the Gusset Plates (2) to the Fuel Tank Support Tube with the hardware (1, 3, and 6). Install the Rivets (7) as illustrated.

5. Repeat on the opposite (RIGHT) wing in 'mirror image'.

NOTE: The quantity (Qty) indicated below reflects the installation of BOTH Fuel Tanks.

Item	P/N	Qty	Description
1	10235	2	AN4-25A Bolt
2	45610	4	Wing Tank Gusset Plate
3	10560	4	1/4" Washer
4	46520	2	Wing Tank Support Channel
5	46525		Fuel Tank Support Tube
6	10510	2	1/4" - 28 Locknut
7	20192	8	3/16" x 1/8" Grip Stainless Steel Rivet (BSPQ-62)


1
2
4
3
7
4 PLACES
UP
FWD
5
2
3
6
CERTAIN PARTS NOT SHOWN FOR CLARITY

WING TANK GUSSET PLATE TO LEADING EDGE WING SPAR ATTACHMENT

1. Refer to Figure 1. Position the Fuel Tank Support Tube as illustrated to allow the TWO remaining holes in the Gusset Plate (4) to be located on the TOP CENTERLINE of the Leading Edge Wing Spar (2). Make a LENGTHWISE pencil mark on the TOP CENTERLINE of the Leading Edge Wing Spar at the APPROXIMATE location where the Gusset Plate will be located.

2. Position the holes in the Gusset Plate (4) over the pencil mark on the Leading Edge Wing Spar (2).

3. Refer to Detail 'A' and Drill Step illustrations 1, 2, and 3. Using the EXISTING OUTBOARD hole in the Gusset Plate (4) as a guide, back-drill a 3/16" (4.8 mm) diameter hole in the Leading Edge Wing Spar (2) as illustrated. TEMPORARILY 'pin' the Gusset Plate with a Bolt (3). CAREFULLY finish drilling the hole thru at the opposite side of the spar. Remove the bolt and ensure the hole is 'clean'.

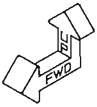
4. Repeat Drill Step 3 for the the remaining hole. Align the remaining hole in the Gusset Plate (4) with the CENTERLINE of the Wing Spar (2) and drill the SECOND hole. Swing the Fuel Tank Support Tube (1) to one side TEMPORARILY and CAREFULLY deburr the holes with an oversized drill bit.

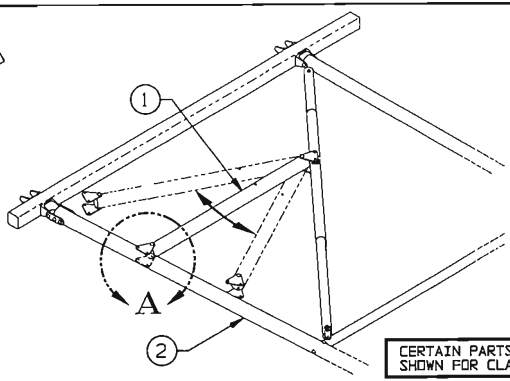
5. Refer to Detail 'A', Drill Step 4. Reposition the Fuel Tank Support Tube and attach the Gusset Plate (4) to the Leading Edge Wing Spar (2) with the hardware (3, 5, and 6) TWO places. Tighten to CORRECT torque. DO NOT over tighten and distort the Spar.

6. Repeat the assembly sequence steps 1 thru 5 above on the opposite (RIGHT) wing in 'mirror image'.

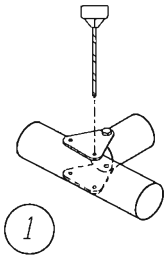
NOTE: The quantity (Qty) indicated below reflects the installation of BOTH Fuel Tanks.

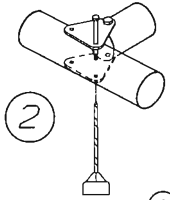
Item	P/N	Qty	Description
1	46525		Fuel Tank Support Tube
2	45623		Left Leading Edge Wing Spar Assembly
	45624		Right Leading Edge Wing Spar Assembly (not illustrated)
3	10231	4	AN3-25A Bolt
4	46510		Wing Tank Gusset Plate
5	10550	4	3/16" Washer
6	10500	4	3/16" Nylock Nut

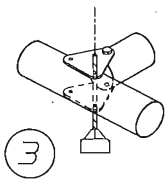


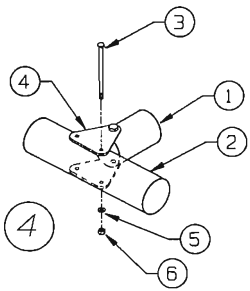


DRILL STEPS:









DETAIL A

FUEL TANK TO FUEL TANK SUPPORT TUBE ATTACHMENT

1. Position the Fuel Tank (1) onto the Wing Tank Support Channel (2) and Fuel Tank Support Tube (3). Slide the Tank AFT until it contacts the 'stop' located at the AFT end of the Channel allowing the Tank to 'seat' correctly.

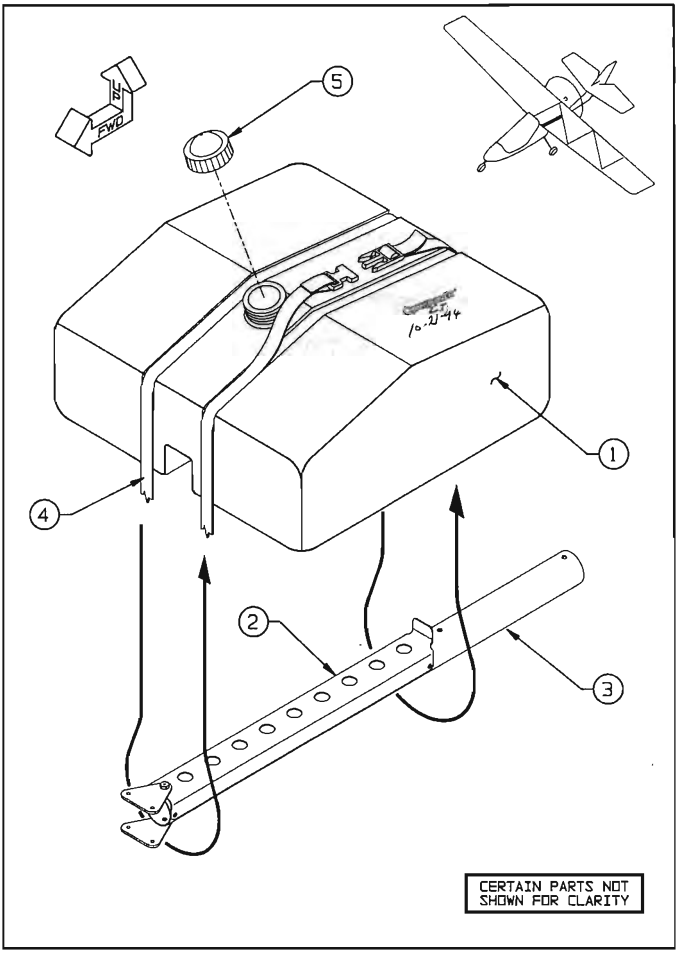
2. Route the Restraint Strap (4) around the Fuel Tank (1) as illustrated. Contact the Male and Female Buckles at the ends of the strap. Pull the strap tight.

3. TEMPORARILY install the Fuel Tank Cap (5) at this time to keep unnecessary contamination out of the Fuel Tank during installation.

4. Repeat on the opposite (RIGHT) wing in 'mirror image' with the EXISTING Fuel Tank Assembly previously installed on the Root Tube.

NOTE: The quantity (Qty) indicated below reflects the installation of ONE Fuel Tank.

Item	P/N	Qty	Description
1	30254		8.5 Gallon Fuel Tank Assembly
2	46520		Wing Tank Support Channel
3	46525		Fuel Tank Support Tube
4	45490	1	8.5 Gallon Tank Strap Restraint
5			Fuel Tank Cap (part of P/N 30254)


5
4
1
2
3
CERTAIN PARTS NOT SHOWN FOR CLARITY

CABLE PULLEY INSTALLATION

1. TEMORARILY attach the hardware (1, 3, 4, 6, and 7) as illustrated, FINGER TIGHT only. Position the LEFT FORWARD Aileron Cable (8) (previously installed) into the Pulley (3).

2. Turn the Control Wheel FULL LEFT. Notice where the Aileron Cable travels thru the Pulley (3). Mark this location with a small piece of tape.

3. Turn the Control Wheel FULL RIGHT. Again, notice where it passes thru the Pulley. Mark this location with tape.

4. CAREFULLY strip off the plastic coating on the FORWARD LEFT Aileron Cable (8) only where the cable will pass thru the Pulley (3).

CAUTION

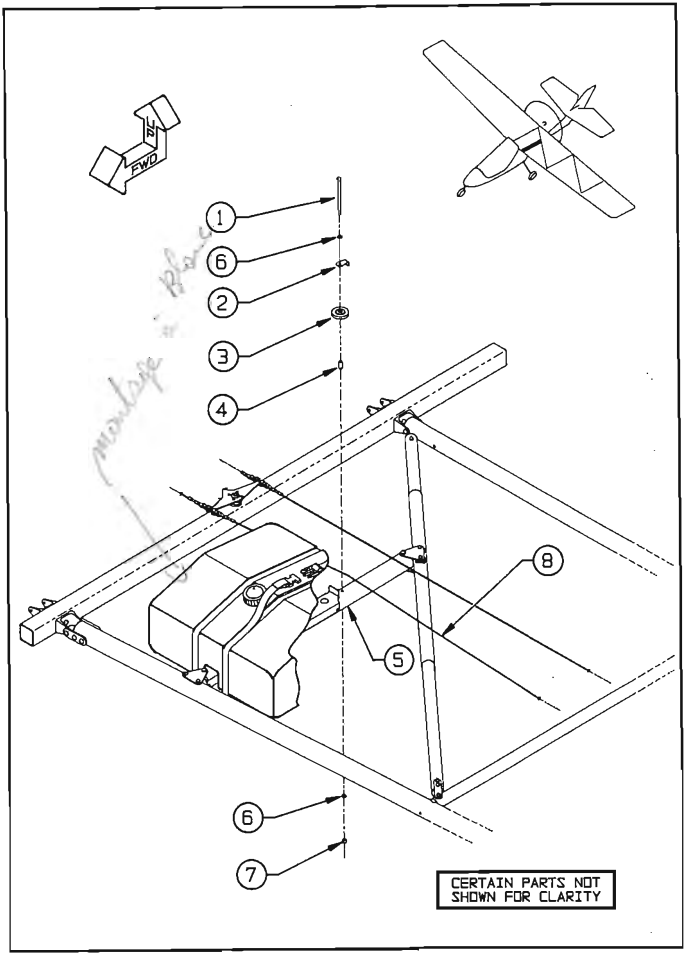
Each FORWARD Aileron Cable (8) must be exposed (stripped) where it makes contact with the Pulley (3) to operate correctly. If a coated Cable contacts the Pulley, 'binding' in the Aileron control system may occur.

5. AFTER the Aileron Cable (8) coating has been stripped, TEMPORARILY disassemble the hardware (1, 3, 4, 6, and 7). Insert the Aileron Cable into the Pulley (3) then add and position the Cable Pulley Guard (2) as illustrated. Ensure the Cable Pulley Guard is not making contact with the Aileron Cable. Tighten to CORRECT torque. DO NOT over tighten and distort the tube.

NOTE: The Pulley Cable Guard (3) is designed to keep the Aileron Cable (8) from 'popping' off or out of the Pulley. Cycle the Aileron Cable back and forth to ensure the Guard is working correctly.

6. Repeat Steps 1 thru 5 on the opposite (RIGHT) wing in 'mirror image'.

Item	P/N	Qty	Description
1	10291	2	AN4-35A Bolt
2	91110	2	Cable Pulley Guard
3	91108	2	1 3/4" Pulley
4	71003	2	Aileron Bushing
5	46525		Fuel Tank Support Tube
6	10560	4	1/4" Washer
7	10510	2	1/4" - 28 Locknut
8	45713		Aileron Cable


FWD
1
6
2
3
4
8
5
6
7
CERTAIN PARTS NOT
SHOWN FOR CLARITY

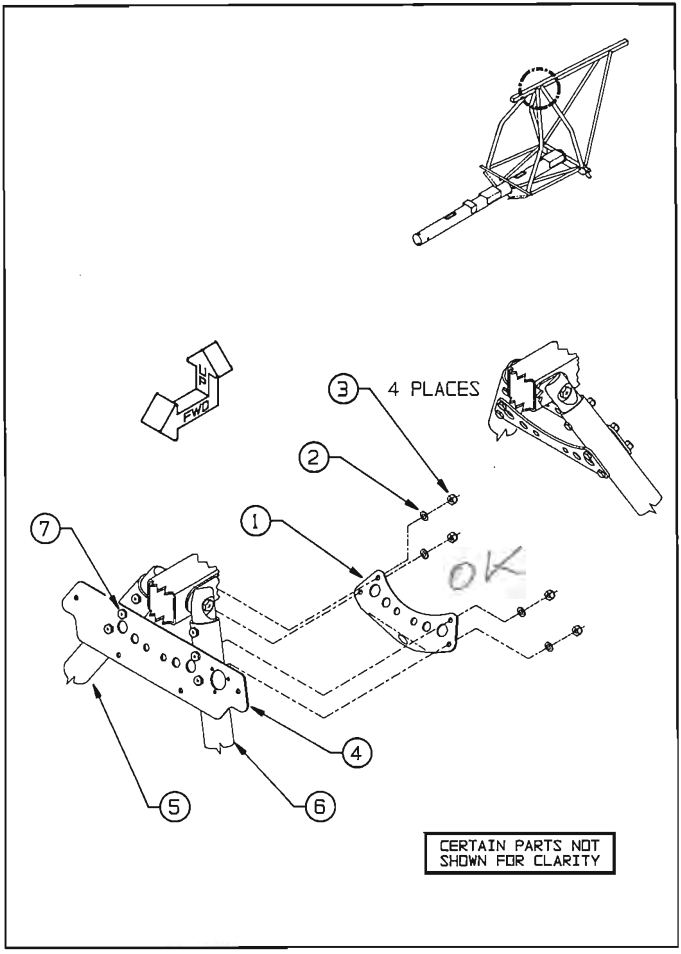
FUEL VALVE ATTACH BRACKET INSTALLATION

1. Locate the EXISTING Downtube Attach Plate (not illustrated) on the AFT side of the Right and Left Forward Fuselage Downtubes (5) and (6) respectively. Remove the EXISTING Downtube Attach Plate.

2. Install the Fuel Valve Attach Bracket (1) as illustrated using the EXISTING Washers (2) and NEW Locknuts (3). Tighten all Locknuts to PROPER torque. DO NOT distort the Downtubes.

NOTE: The bend at the BOTTOM of the Fuel Valve Attach Bracket (1) faces AFT.

Item	P/N	Qty	Description
1	45876	1	Fuel Valve Attach Bracket
2	10560		1/4" Washer
3	10510	4	1/4" Locknut
4	45429		Forward Seat Belt Bracket
5	45469		Right Forward Fuselage Downtube
6	45471		Left Forward Fuselage Downtube
7	10190		AN4-22A Bolt


FWD
3
4 PLACES
2
1
7
OK
4
5
6
CERTAIN PARTS NOT
SHOWN FOR CLARITY

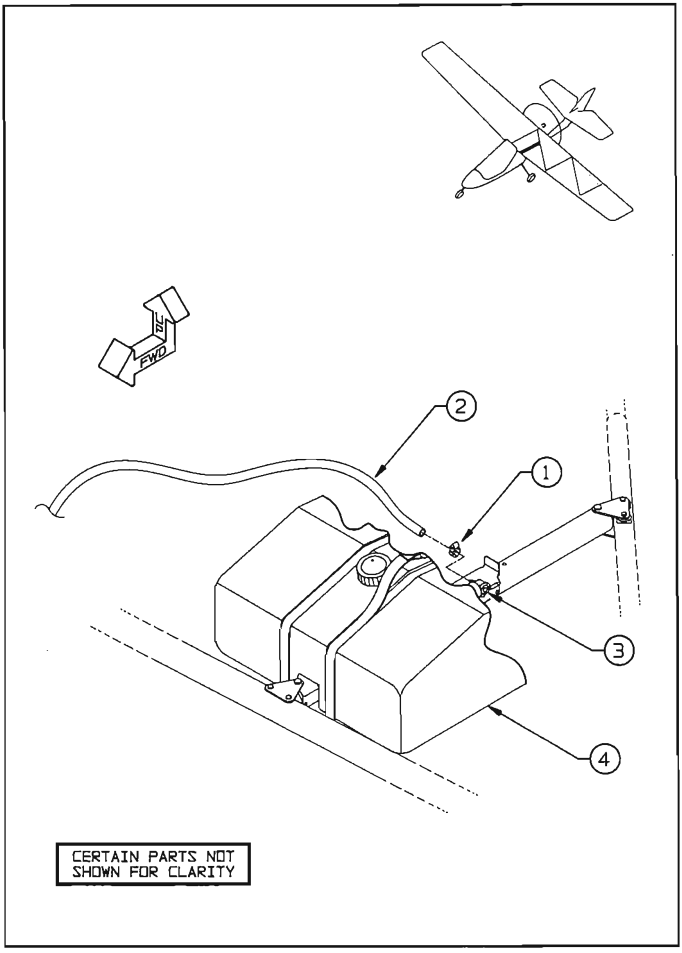
FUEL LINE TO FUEL CUT OFF VALVE ATTACHMENT

1. Slide a Fuel Line Clamp (1) over the end of the Fuel Line (2) and attach the end of the Fuel Line to the Fuel Line Cut Off Valve (3) located at the BOTTOM of the LEFT Wing Fuel Tank (4) as illustrated. Tighten but DO NOT overtighten the Clamp (1).

2. Repeat on the opposite (RIGHT) wing in 'mirror image'.

NOTE: The quantity (Qty) indicated below relects the installation of ONE Fuel Tank only. Use the EXISTING Clamp on the RIGHT Wing Tank.

Item	P/N	Qty	Description
1	30230	1	Fuel Line Clamp
2	30220	A/R	1/4" I.D. Fuel Line
3	30282		Fuel Cut Off Valve
4	30254		8.5 Gallon Fuel Tank Assembly


FWD
2
1
3
4
CERTAIN PARTS NOT
SHOWN FOR CLARITY

FUEL LINE ROUTING

1. Install the Fuel Valve (3) to the Fuel Valve Attach Bracket (4) (previously installed) as illustrated. Tighten the Ring Nut (5) securely.

2. Remove the EXISTING length of Fuel Line (1) from the Fuel Filter (7) FORWARD. Refer to SECTION 4 of the GT 500 Assembly Instructions (DOC# 902-01) if necessary.

3. Route a NEW piece of Fuel Line (1) as required with AFT from the Valve (3) as illustrated.(i()

4. Secure all Fuel Lines (1) from the LEFT and RIGHT Fuel Tanks and to the Fuel Filter with the THREE Clamps (2) but DO NOT overtighten.

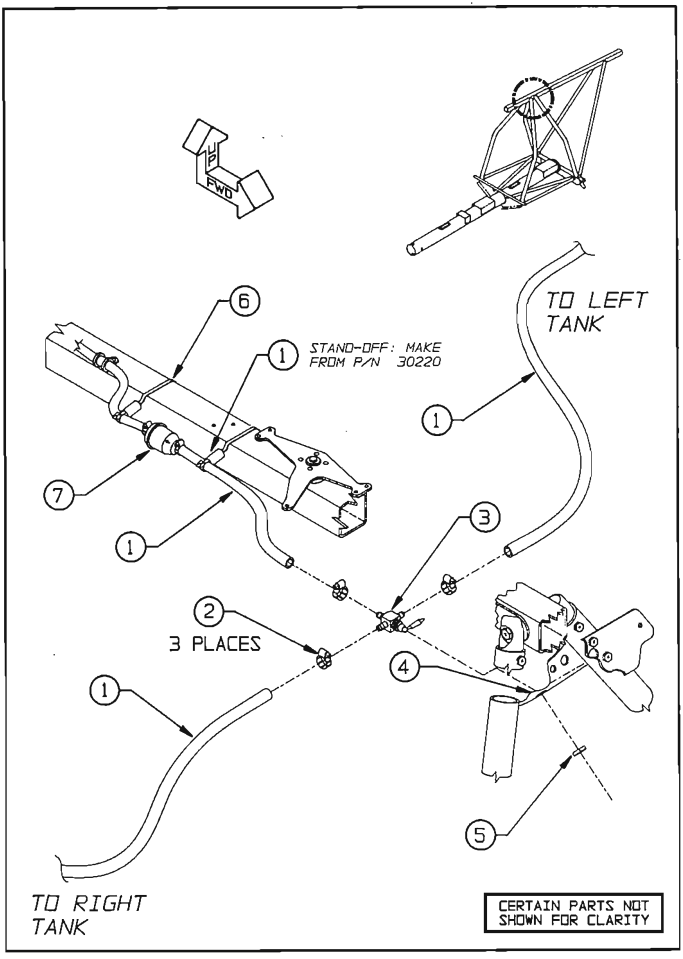
NOTE: One of the THREE Clamps (2) illustrated will be retained from the EXISTING fuel system previously installed.

5. Secure the Fuel Lines (1) with Fuel Line Stand-Offs and Tie Wraps (6) as previously attached. Secure each of the Fuel Lines from the LEFT and RIGHT Fuel Tanks to the Root Tube with Stand-Offs and Tie wraps at TWO locations (not illustrated) as required.

NOTE: Attach TWO Tie Wraps (6) together to go around the Root Tube properly at THREE locations.

Item	P/N	Qty	Description
1	30220	A/R*	Fuel Line (from the Fuel Filter)
2	30230	3	Fuel Line Clamp
3	30285	1	3 Port Fuel Valve
4	45876		Fuel Valve Attach Bracket
5			Ring Nut (Part of P/N 30285)
6	30480	6	7 " Tie Wrap
7	30210		Fuel Filter

* As Required


FWD
6
1
STAND-OFF: MAKE FROM P/N 30220
7
1
TO LEFT TANK
1
3
2
3 PLACES
4
1
5
TO RIGHT TANK
CERTAIN PARTS NOT SHOWN FOR CLARITY