AIRCRAFT INFORMATION AND DATA

TABLE OF CONTENTS

PAGE

Introduction.....1-4
Three-View.....1-2
Descriptive Data.....1-4
Airframe.....1-6
Flight Controls.....1-6
Ground Control (Taxi).....1-7
Flap System.....1-7
Landing Gear System.....1-7
Seat.....1-7
Engine.....1-8
  Throttle Control.....1-8
  Choke Control.....1-8
  Engine Break-in and Operation.....1-8
  Fuel/Oil Mixture.....1-8
  Ignition-Starter System.....1-9
  Carburetor and Priming System.....1-9
  Engine Instruments.....1-9
Propeller.....1-9
Fuel System.....1-10
Brake System.....1-10
Airspeed Indicator.....1-10
Labels and Placards.....1-11
Construction Notes.....1-14
  Parts List Interpretation.....1-15
  Nuts and bolts.....1-18
  Bolt and Nut Torque Specification.....1-19
Propeller.....1-22
Tool Requirement.....1-24
Bolt Idenification.....1-25

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FUEL

Approved Fuel: Automobile gasoline (83 octane or higher)
Fuel Capacity: 8.5 gallons (32.2 litres
Useable Fuel: 8.25 gallons (31) litres
Unuseable Fuel: .25 gallons (.007) litres

OIL

Fuel Mixture
Approved Type of Oil: BIA-TC-W-2 two-cycle oil
Fuel/Oil Ratio: 50:1
Gearbox - GT500
Gear Oil: SAE 85W90 (400cc)

GT WEIGHTS:	**GT500**	(METRIC)
Maximum Takeoff Weight:	850 lbs.	(385 kilograms)
Maximum Landing Weight:	850 lbs.	(385 kilograms)
Empty Weight: Strut Braced:	420 lbs *	(190 kilograms)
Maximum Useful Load: Strut Braced:	430 lbs	(194 kilograms)

* The empty weight is shown with a pilot/vehicle recovery system. When computing weight values, the actual weight of the aircraft, as equipped, should be determined. For accurate computation, refer to WEIGHT and BALANCE (SECTION 6).

SPECIFIC LOADINGS :

	GT500	
Wing Loading:	5.34 lbs/sq ft	(8.0 kg/sq m)
Power Loading:	17 lbs/hp	(7.7 kg/hp)

TIRE PRESSURE

Main Wheel Tires: 25 - 30 PSI * (172-206 kpa)
Nose Wheel Tire: 25 - 30 PSI * (172-206 kpa)
* Check raised lettering on tire sidewall for maximum allowable PSI (lbs/in2).
Ground Turning Clearance.....78 ft. (26.52 meters)
(Wing tip to Wing tip)

**** SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE ****

AIRCRAFT AND SYSTEMS DESCRIPTION

This section provides a general description and speration of the aircraft and its systems. Only equipment that is considered standard os detailed in this section.

GROUND CONTROL (TAXIING)

Effective ground control while taxiing is accomplished through the rudder pedals. Nose wheel steering and the propeller wash over the rudder will cause the aircraft to turn in the desired direction (i.e.- Left rudder pedal to steer Left and Right rudder pedal to steer Right). When a rudder pedal is depressed, a steering spring (which is connected from the rudder pedal to the nose wheel) will turn the nose wheel through an arc of approximately 15 degrees each side of center.

FLAP SYSTEM

The flaps are conventional and are extended or retracted by positioning the flap selector lever, located over the front pilot's head only, to the desired flap deflection position. The flap lever moves forward or aft under a metal plate that provides mechanical stops at the 0, 10, 20, and 30 degree positions. The flap selector lever must be pulled forward slightly, then gently down before moving it into a new position. As the lever begins to move, release the downward pressure. When the new flap position is reached, ensure that the lever is securely seated in the new position.

LANDING GEAR SYSTEM

The landing gear is of the tricycle type with a steerable nose wheel and two main wheels. Shock absorbtion is provided by the tapered aluminum alloy main landing gear legs. The nose wheel is equipped with a friction plate brake.

SEAT

Both seats are attached to the forward fuselage tube by the seat rails. They are adjustable fore and aft. The seat should be adjusted while standing to the right of the seat. In order to allow the seat to move, pull the seat locking pin located under the right side of the seat and move the seat to the desired position. Ensure that the locking pin locks into the seat rail. Ensure that the seat will not move either forward or aft by exerting pressure in both directions.

The aircraft is equipped with a pilot restraint system. At any time the pilot is seated in the aircraft with the intent of moving it, the pilot restaint system must be securely fastened. The rear seat restraint system must be secured even when not in use.

IGNITION-STARTER SYSTEM

The ignition is a dual CDI type; twin spark plugs per cylinder. The spark plug used is an NGK B8ES (or equivalent). The ignition switch is a key type switch located to the right side of the of the instrument panel. the switch must be in the "both positon while operating, the "L" and "R" postions are for checking to see if both cdi systems are working. Do not fly if rpm drop exceeds 300 rpm at 3000 rpm during run up prior to flight. The starter is a manual mechanical rewind starter. The starter cord condition must be checked every 10 hours and replaced when worn or frayed. DO NOT operate the engine if the rewind starter is defective. Refer to the Rotax Operator's Manual for specific information. Electric start is optional.

CARBURETOR AND PRIMING SYSTEM

A Bing carburetor is used on the engine. This is a piston type carburetor with float chamber. The carburetor is fed by an engine driven vacuum fuel pump. Refer to the Rotax Operator's Manual for specific information on carburetor adjustment and care. When Servicing the Carburator as precribed in Legend 1 of the Powerplant Maintenance Schedule remove the fuel bowl; drain, clean and replace.

ENGINE INSTRUMENTS

The aircraft is equipped with a Tachometer, Water Temperature and Hour meter located in the instrument panel in the front seat only. The instruments displays engine RPM and water temperature in degrees Fahrenheit, and an approximation of engine time in hours. . The maximum authorized RPM is 6500 RPM (GT500) and must never be exceeded. . The water temperature is actually a result of the throttle setting, carburetor fuel/air mixture, air flow over the engine, outside air temperature, engine timing, and general engine condition. If a higher than normal temperture is indicated, the throttle should be retarded to a position that causes a decrease in the instrument reading. In any case, the water temperture must not be allowed to exceed 180f(80C) degrees.

PROPELLER

The aircraft has a wooden, two-bladed, fixed pitch propeller. The diameter is 68 inches(1727mm) and the designated pitch is; 38in.(965mm) (GT500). The GT500 uses a Helical Gear reduction drive. The engine-to-propeller reduction ratio of 2.58 to 1.

LABELS AND PLACARDS

The following Labels and Placards contain important information needed for proper operation of the Quicksilver GT.

CAUTION

THOROUGH PREFLIGHT INSPECTION REQUIRED. USE GUIDELINES SUPPLIED IN THE PREFLIGHT SECTION OF YOUR OWNERS MANUAL AND YOUR OWN GOOD JUDGMENT. FLY AT YOUR OWN RISK.

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NOTICE

For this vehicle to qualify as an ultralight (ref. FAR part 103) it must be equipped with a pilot recovery system approved by Quicksilver Enterprises.

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CAUTION

Monitor your fuel level to ensure an adequate reserve for a safe landing.

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PASSENGER WARNING

This aircraft is amateur-built and does not comply with the Federal Safety Regulations for "standard aircraft."

NOTICE

THE MARKINGS AND PLACARDS INSTALLED IN THIS VEHICLE CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS VEHICLE. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS VEHICLE ARE CONTAINED IN THE OWNER'S MANUAL.

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IMPORTANT

50:1

GASOLINE/OIL MIXTURE ONLY

DANGER

PROPELLER ARC

IMPORTANT

Vehicle Owner

If you are not the original owner of this vehicle, write to "SERVICE BULLETIN INFORMATION"

P.O. Box 1572, Temecula, CA 92390 U.S.A.
(714) 676-6886 Telex: 499-0565
FAX: (714) 676-4883

QUICKSILVER ENTERPRISES, INC.

Model QUICKSILVER GT500

Serial No. GT500

P.O. Box 1572, Temecula, CA 92390 USA
(714) 676-6886 Telex: 499-0565 FAX: (714) 676-4883

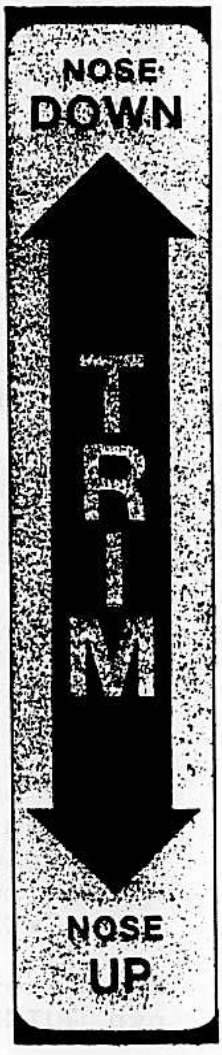
EXPERIMENTAL

WARNING

SOLO FLIGHT FROM FRONT SEAT ONLY

Do Not Fly Pilot In Command or Give Flight Instruction From Rear Seat Unless Equipped With Rear Seat Airspeed Indicator.

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FLIGHT SPEEDS

QUICKSILVER GT500

CONDITION	FLAP SETTING	SPEED MPH	SPEED KNOTS
Minimum Climb to 100' AGL	0-30	43	37
Va Maneuvering	0	80	69
Vne Never Exceed	0	103	89
Vfe Never Exceed	10-30	54	47
Minimum Approach Below 100' AGL	0-30	43	37

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CONSTRUCTION NOTES - CONT.

* PARTS LIST INTERPRETATION *

In each sequence, when we call out an item in the text we will give it an Item Number which is repeated on the illustration and keys with the Parts List.

Text Example: "Lay out the Left Wing Cover (1).."

If that item is NEW in the sequence it will have a Part Number in the List which matches the part to be used.

Parts List Example:

Pt.	P.N.	Description.
1.	45674	LEFT Wing Cover.

If the Part has been:

1. Previously Sub-assembled in an earlier sequence.
2. Factory Installed.
3. Called out for identity .
4. Is an integral piece of another item.

Then it will appear in the Parts List with a dotted line after the Item number.

Example:

Pt.	P.N.	Description.	
1.....		LEFT Wing Cover.	(previously sub-assembled).
2.....		Nut Plate.	(factory installed).
3.....		Aileron T.E.	(identifies a part).
4.....		Knurled Nut.	(an integral part of the Ignition Switch).

Note also that while a Part may be identified (1) on the page which you are reading, it may be identified differently three pages later as (16), ten pages later as (5) and so on - for the same Part .

REMINDER: Each page, in each sequence, is an independent unit.

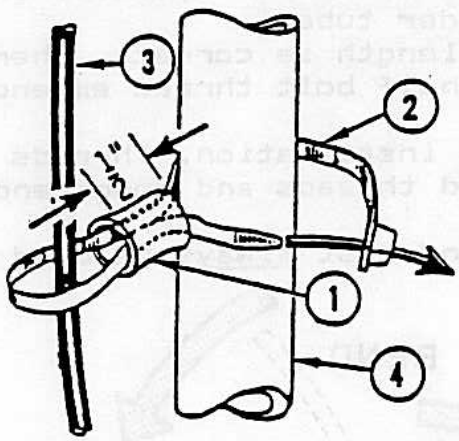
CONSTRUCTION NOTES - CONT.

STAND-OFF ASSEMBLY

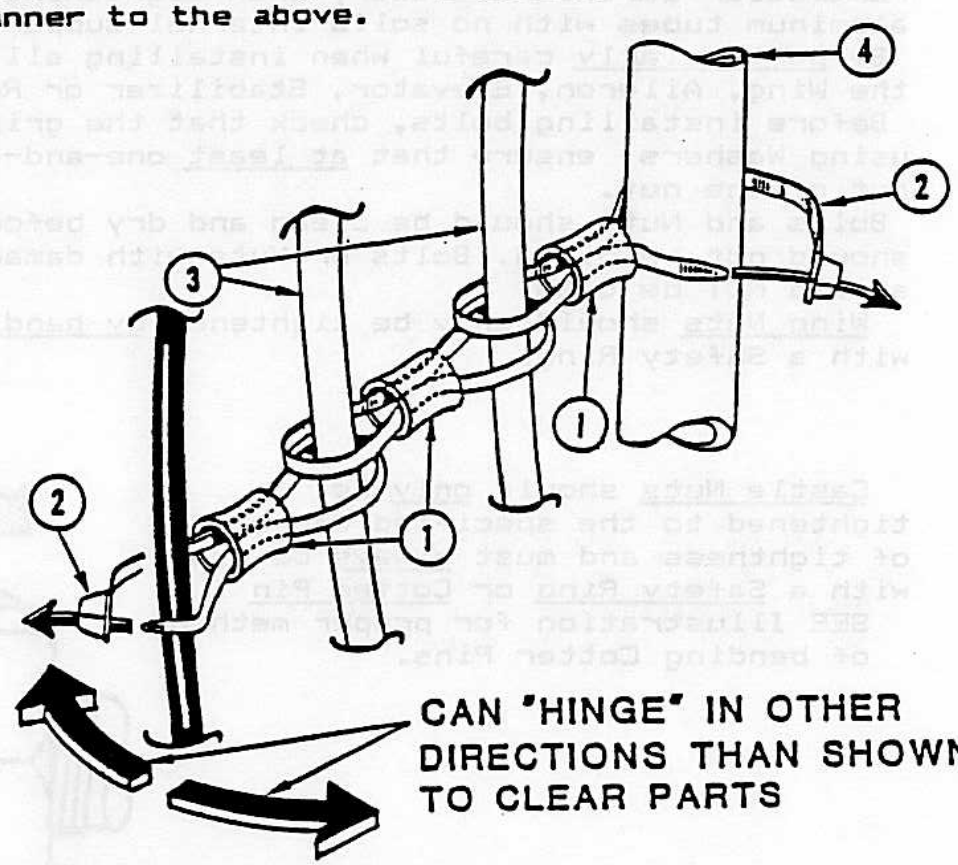
This is an anti-vibration fitting used to isolate Gas Lines, Throttle Cable, Teleflex Cable and some Electrical Wires throughout the aircraft. The exact locations and numbers used are detailed in the relevant sequence.

1. Refer to Detail 'A', which shows a <u>single</u> Stand-off in a typical application. Cut a 1/2" (12.7mm) piece of Fuel Line (1). Thread a 7" Nylon Tie-Wrap (2) around a typical part (3), thru the Fuel Line (1) and around the Airframe tube (4) as shown. Pull tight, cut off the excess and touch the cut end with the hot knife to remove sharp edges.

2. Refer to Detail 'B', which shows a typical <u>multiple</u> Stand-off. Fabricate in a similar manner to the above.



DETAIL 'A'



DETAIL 'B'

Pt.	P.N.	Description.
1.	30223	Fuel Line 35".
2.	30480	7" Nylon Tie-wrap.
3.	.....	Typical part.
4.	.....	Typical Airframe Tube.

*** NOTE: The 35" Fuel Line is used in the Forward Fuselage. Use the remaining piece for "Stand-Off" assembly.

BOLT TIGHTENING - CONT.

SPECIFIED TORQUE VALUES

	in.lbs.	ft.lbs.	Newton Meter
3/16"....(AN3)....4.8mm	20-25	1.5-2.0	2.25-2.75
" with thin locknut	12-15	1.0-1.25	1.25-1.75
1/4" ....(AN4)....6.35 mm	50-70	4.0-5.75	5.5-8.0
" with thin locknut	30-40	2.5-3.25	3.5-4.5
1/4"-20 thread (Coarse) 6.35mm	40-50	3.25-4.0	4.5-5.5
5/16"....(AN5)....7.94mm	100-140	8.25-11.5	11.25-15.75
" with thin locknut	60-85	5.0-7.0	6.75-9.5
7/16"....(AN7)....11.11mm	450-500	37.5-41.5	51.0-56.5

RUN-ON TORQUE and PROPER TORQUE.

Run-on Torque is the amount of resistance encountered when you thread a nut onto a bolt until the bolt threads appear through the nut.

When you thread a new Nut onto a Bolt, resistance is felt due to minute machining differences. It is sometimes possible to reach the Torque Values in the above chart even before the Bolt threads appear through the Nut, particularly when working with Locknuts. The effect is that the Torque Wrench shows you the "correct" torque, yet this can be a completely false reading and the nut and bolt will not be correctly tightened!

Therefore, when reading any Torque Specification in this manual we will expect you to use Proper Torque.

FORMULA

PROPER TORQUE = RUN-ON TORQUE + TORQUE VALUE

EXAMPLE

Using the Torque Wrench, run a 3/16" (AN3) Locknut onto a (AN3) Bolt until the threads just begin to appear past the nut. Note the reading on the Torque Wrench - (Lets say, it reads 8 in/lbs.). That reading is the "Run-on Torque".

In the Specified Torque Value chart above, you will see that the Torque Value for AN3 is 20-25 in./lbs. ADD that to the Torque Wrench reading (8 in./lbs). Therefore, this AN3 bolt will be correctly tightened when the Torque Wrench shows a reading of 28-33 in./lbs. This is PROPER TORQUE.

IMPORTANT: Nylock Nuts and Locknuts should never be used more than twice as they become less vibration resistant with each removal.

When using the Torque Wrench, apply a smooth, even pull. If chattering or a jerking motion occurs during final torque, back off and re-torque.

AN BOLT GAUGE

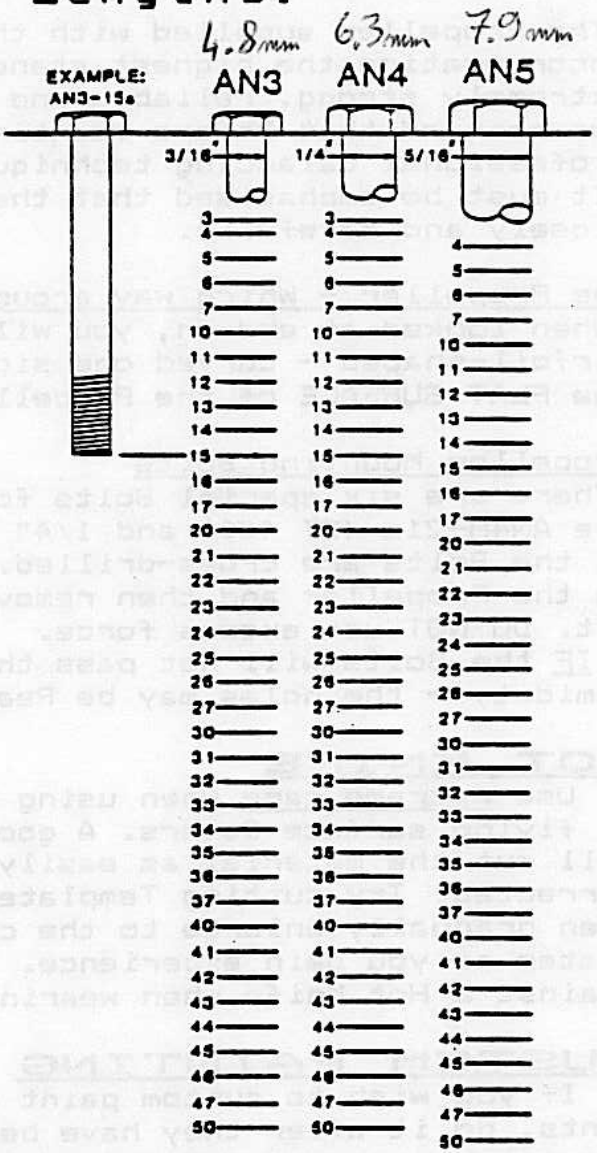
Use this Gauge to determine AN Bolt Sizes and Lengths.

DO NOT USE Substitutes!
Call your Eipper Dealer for replacements, whenever necessary.

AN3 = 3/16" diameter Shank.

AN4 = 1/4" diameter Shank.

AN5 = 5/16" diameter Shank.



CAUTION: This Gauge is inappropriate for measuring Grade 5 Bolts.

GETTING READY

NOTE:
The Assembly & Installation Instructions for the ENGINE (Section 4) will be packaged with the Engine Kit. Locate them and insert them into the Assembly Manual. ** CAUTION : DO NOT attempt to Mount the Engine onto the Airframe until instructed to do so in Final Assembly (Section 7).

Once you have thoroughly read the instructions:

1. Inventory and inspect the component parts of the kit, leaving them in their clear-wrap packaging until ready for use.
2. Assemble the tools required and ensure that they are clean and sharp (See "Tools Needed").
3. Clean your workspace so that it is as dust-free as possible.
4. Always use the specified components and Bolts. NEVER use substitutes. NEVER use non-Eipper Parts (See "AN Bolt Gauge").
5. Check all flying and control Wires with the Nico Sleeve Gauge provided (See "Nico Sleeve Gauge Procedure").
6. Use extreme care when using the Hot Knife to cut the Template holes in flying surface Covers. Mistakes cannot be corrected! (See "Hot Knife").

SPACE REQUIREMENTS

*NOTE: Throughout this Assembly Manual we have presumed that your work area is about the size of the average Garage - 25'0" long x 15'0" wide x 8'0" high (7.6m x 4.5m x 2.4m).
With careful space management, you should easily be able to separately assemble the Fuselage, Tail Boom and one Wing at a time, then Final Assemble them outside.
If you have more space, it is possible to build both Wings simultaneously - just remember that the full Wing Span on the "Wing Jig" exceeds 30'0" (9.14m) and the overall length of the Quicksilver GT exceeds 20'0" (6.1m).

BOLT HEAD MARKINGS

Specifications require that almost all bolts which are made to conform with standard drawings be identified by a specific marking on the bolt head. Shown here are the head markings on 20 different types of bolts. The initials "RM" and "RBM" identify the manufacturer of the bolt.



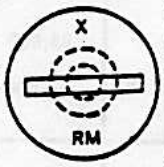
AN 3 THRU AN 12



AN 3C THRU AN 12C



AN 3DD THRU
AN 12DD



AN 23 THRU
AN 32



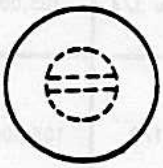
AN 73 THRU AN 81



AN 173 THRU
AN 182



AN 173C THRU
AN 182C



AN 393 THRU
AN 402



AN 101001 THRU
AN 103601



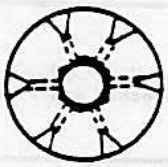
AN 103701 THRU
AN 104501



AN 104601 THRU
AN 107201



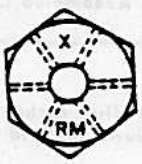
AN 107301 THRU
AN 108101



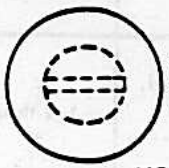
AN 148551 THRU
AN 149251



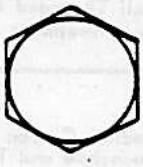
MS 9033 THRU
MS 9224



MS 20073-3-
THRU MS 20073-12-
MS 20074-3
THRU MS 20074-12



MS 20392-4-
THRU MS 20392-10-



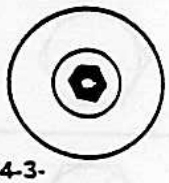
MS 35298
THRU
MS 35294



MS 35295
THRU
MS 35300



MS 35301
THRU
MS 35306



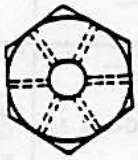
NAS 144 THRU
NAS 152



NAS 464-3-
THRU
NAS 464-12-



NAS 501-3
THRU
NAS 501-12



NAS 563
THRU
NAS 572



NAS 1003
THRU
NAS 1012



NAS 1103
THRU
NAS 1112

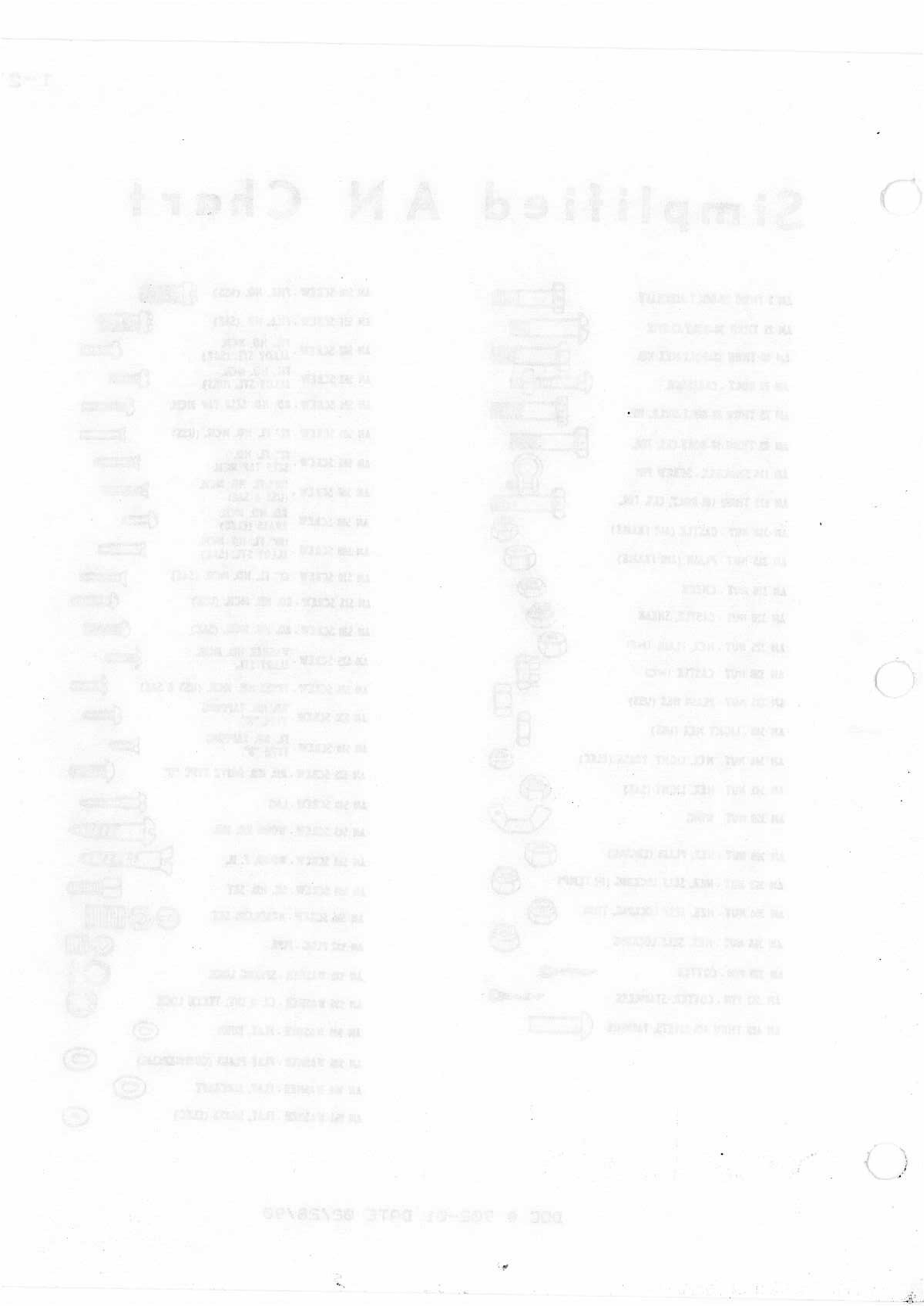


NAS 1301
THRU
NAS 1312

Simplified AN Chart

AN 3 THRU 20-BOLT-AIRCRAFT
AN 21 THRU 36-BOLT-CLEVIS
AN 60 THRU 65-BOLT-HEX HD.
AN 70 BOLT - CARRIAGE
AN 73 THRU 81-BOLT-DBLE. HD.
AN 83 THRU 96-BOLT-CLS. TOL.
AN 116 SHACKLE - SCREW PIN
AN 173 THRU 186-BOLT, CLS. TOL.
AN 310 NUT - CASTLE (AIR FRAME)
AN 315 NUT - PLAIN (AIR FRAME)
AN 316 NUT - CHECK
AN 320 NUT - CASTLE, SHEAR
AN 325 NUT - HEX, PLAIN (NF)
AN 330 NUT - CASTLE (NC)
AN 335 NUT - PLAIN HEX (USS)
AN 340 - LIGHT HEX (UCS)
AN 341 NUT HEX, LIGHT, BRASS (ELEC)
AN 345 NUT HEX, LIGHT (SAE)
AN 350 NUT WING
AN 360 NUT - HEX, PLAIN (ENGINE)
AN 363 NUT - HEX, SELF LOCKING (HI-TEMP)
AN 364 NUT - HEX, SELF LOCKING, THIN
AN 365 NUT - HEX, SELF LOCKING
AN 380 PIN - COTTER
AN 381 PIN - COTTER, STAINLESS
AN 420 THRU 470 RIVETS, VARIOUS

AN 500 SCREW - FILL. HD. (USS)
AN 501 SCREW - FILL. HD (SAE)
AN 502 SCREW - FIL. HD. MCH. ALLOY STL. (SAE)
AN 503 SCREW FIL. HD. MCH. ALLOY STL. (USS)
AN 504 SCREW - RD. HD. SELF TAP MCH.
AN 505 SCREW - 82° FL. HD. MCH. (USS)
AN 506 SCREW - 82° FL. HD. SELF TAP MCH.
AN 507 SCREW - 100° FL. HD MCH. (USS & SAE)
AN 508 SCREW - RD. HD. MCH. BRASS (ELEC)
AN 509 SCREW - 100° FL. HD. MCH. ALLOY STL. (SAE)
AN 510 SCREW - 82° FL. HD. MCH. (SAE)
AN 515 SCREW - RD. HD. MCH. (USS)
AN 520 SCREW - RD. HD. MCH. (SAE)
AN 525 SCREW - WASHER HD. MCH. ALLOY STL.
AN 526 SCREW - TRUSS HD. MCH. (USS & SAE)
AN 530 SCREW - RD. HD. TAPPING TYPE "B"
AN 531 SCREW - FL. HD. TAPPING TYPE "B"
AN 535 SCREW - RD. HD. DRIVE TYPE "U"
AN 540 SCREW - LAG
AN 545 SCREW - WOOD RD. HD.
AN 550 SCREW - WOOD, F. H.
AN 560 SCREW - SQ. HD. SET
AN 565 SCREW - HEADLESS SET
AN 932 PLUG - PIPE
AN 935 WASHER - SPRING LOCK
AN 936 WASHER - EX. & INT. TEETH LOCK
AN 940 WASHER - FLAT, BURR
AN 945 WASHER - FLAT PLAIN (COMMERCIAL)
AN 960 WASHER - FLAT, AIRCRAFT
AN 964 WASHER - FLAT, BRASS (ELEC)



Our SAE Grade 5 line of cap screws is manufactured from SAE 1038 steel to provide a tensile strength of approximately 135,000 PSI as compared to the 120,000 PSI minimum called for by the SAE Specifications. In actual tests, our Bowma-Torq (formerly SAE Grade 6) cap screws produced tensile strength which met the 150,000 PSI requirement for SAE Grade 8. Finally, our Bowmalloy offers a proof load which is 37 1/2% greater than Grade 8, the highest SAE rating established for cap screws.

SAE GRADE MARKINGS FOR STEEL BOLTS AND SCREWS

Grade Marking	Specification	Material	Bolt and Screw Size, in.	Proof Load, Psi.	Tensile Strength min., psi.	Rockwell Hardness	
						Min.	Max.
	SAE–Grade 0	Steel	1/4 thru 1 1/2	—	—	—	—
	SAE–Grade 1	Low Carbon Steel	1/4 thru 1 1/2	33,000	60,000	—	B 95
	SAE–Grade 2	Low Carbon Steel	1/4 thru 3/4 Over 3/4 thru 1 1/2	55,000 33,000	74,000 60,000	— —	B 100 B 95
	SAE–Grade 3	Medium Carbon Steel, Cold Worked	1/4 thru 1/2 Over 1/2 thru 5/8	85,000 80,000	110,000 100,000	B 95	B 104
	SAE–Grade 5	Medium Carbon Steel, Quenched and Tempered	1/4 thru 3/4 Over 3/4 thru 1 Over 1 thru 1-1/2	85,000 78,000 74,000	120,000 115,000 105,000	C 23 C 22 C 19	C 32 C 32 C 30
	SAE–Grade 5.1	Low or Medium Carbon Steel, Quenched and Tempered with Assembled Lock Washer	Up to 3/8 incl.	85,000	120,000	C 23	C 40
	Formerly SAE–Grade 6	Medium carbon steel. Quenched and tempered.	1/4 thru 5/8 Over 5/8 thru 3/4	110,000 105,000	140,000 133,000	C 30 C 28	C 36 C 36
	SAE–Grade 7	Medium Carbon Alloy Steel, Quenched and Tempered, Roll Threaded After heat treatment	1/4 thru 1 1/2	105,000	133,000	C 28	C 34
	SAE–Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1 1/2	120,000	150,000	C 32	C 38
	Exceeds SAE–Grade 8	Special Ultra Hi-Strength Alloy Steel Quenched and Tempered	1/4 thru 1 1/2	165,000	185,000	C 37	C 41

TOOLS NEEDED FOR ASSEMBLY

* Allen Hex Bits: 6mm - 1/4" - 1/8"- to fit Torque Wrench.
* Angle Finder (Universal Protractor).
* Awl.
* Bench Vice.
* Cleaning Brush, 1".
* Center Punch.
* Cleaning Fluid.
* Drill Motor or Hand Drill with 1/8"-3/16"-3/8"-5/8"-1/2" Bits.
* Files: Fine Flat,
  : 1/2 Round,
  : Rat Tail.
* Hacksaw with normal and Tube-cutting Blades.
* Hammers: Steel,
  : Leather.
* Hot Knife (or Soldering Iron with Blade Edge).
* Marking Pencil or Pen.
* Pliers: Regular,
  : Long Nose.
* Razor Knife.
* Riveting Tool for 1/8" and 3/16" Rivets.
* Rope, 1/4" Nylon.
* Sandpaper - Medium Grit.
* Scissors.
* Screwdrivers: set of Flat Blade,
  : " " Phillips.
* Sidecutters - one pair.
* Spark Plug Gapping Tool.
* Straight Edge, 6' feet long (2m.).
* Tape Measure - 10'feet (3m.).
* Tape: Electricians,
  : Masking.
* Torque Wrench that registers in.lbs.(or Newton Meters if you work in Metric).
* Torque Wrench that registers ft.lbs (or Newton Meters).
* Vice Grips.
* 3 Weighing Scales each having a capacity of 200lbs.(90 Kg.).
* Wire Crimper.

GT 280 - ONLY:

* Artists Paint Brush & small amount of White Paint. (to number 'V' Belts).
* Socket: 1-1/8" to fit torque wrench.

Wrenches : Open End and Socket - 3/16"-1/4"-5/16"-3/8"-7/16"-1/2" - 9/16"-11/16"
: Metric (for Engine) - 5mm.- 6mm.- 8mm. - 10mm - 11mm.- - 13mm.- 16mm.- 17mm.
: Allen Wrench.....- 6mm. - 1/8" - 1/4".

Also some strips of old Carpet, or old Bed Sheets, Painters' Drop Sheets or similar protective cover will be useful to keep wings and other parts clean and free from scratches during assembly.

PROPELLER

****
CAUTION: It is DANGEROUS to work on a Propeller with the High Tension Lead connected to the Spark Plug of the Engine!!
****

The Propeller supplied with this kit is a precision-made component incorporating the highest standards of manufacture. While it is extremely strong, reliable and well balanced as supplied, it is recommended that before mounting, it should be fine-balanced using Professional balancing techniques.

It must be emphasised that the mounting procedure must be followed closely and carefully.

The Propeller - Which way around?

When looked at end-on, you will see that the Propeller blades are airfoil-shaped - curved one side, flat the other. On this aircraft, the FLAT SURFACE of the Propeller blade FACES AFT!!

Propeller Mounting Bolts

There are six special Bolts for use only on the Propeller. They are AN4H-21a (GT 400) and 1/4" x 20 Coarse Thread (GT 280). The heads of the Bolts are cross-drilled. Push each Bolt in turn thru the holes in the Propeller and then remove them again. They should be a tight fit. DO NOT use excess force.

IF the Bolts will not pass thru the Propeller - perhaps due to local humidity - the holes may be Reamed to 1/4". USE EXTREME CAUTION.

HOT KNIFE

Use extreme care when using the Hot Knife to cut the Template holes in flying surface Covers. A good Hot Knife at the correct temperature will cut the material as easily as soft butter. Mistakes cannot be corrected! Try cutting Template holes smaller than needed at first, then gradually enlarge to the correct size. In this way, you'll get neater as you gain experience. CAUTION-- Don't step on or brush against a Hot Knife when wearing sneakers, it can be very painful!!

CUSTOM PAINTING

If you wish to custom paint the Pilot Fairing, Seat and Wheel Pants, do it after they have been assembled in sequence; then disassemble, paint and reassemble according to the instructions.

LOCATING HOLES

When predrilled Tubes have been inserted into Wing and Tail Covers, find the holes as instructed in each sequence. Final locate them with your fingers and push a stick-pin thru the fabric to mark their position.

ROTAX ENGINES: TORQUE SPECIFICATIONS

	in.lbs.	Newton Meters
Cylinder Head Nuts.....M8.....	210	24
Crankcase Screws.....M8.....	210	24
Magneto Housing Nut.....M18x1,5	700	80
Fan Nut.....M16x1,5	620	70
Crankcase Nuts (or screws) M10....	354	40
Exhaust Socket Screws.....M8.....	210	24

Formula : To convert (in.lbs) to (ft.lbs): Divide by 12

SAFETY WIRING

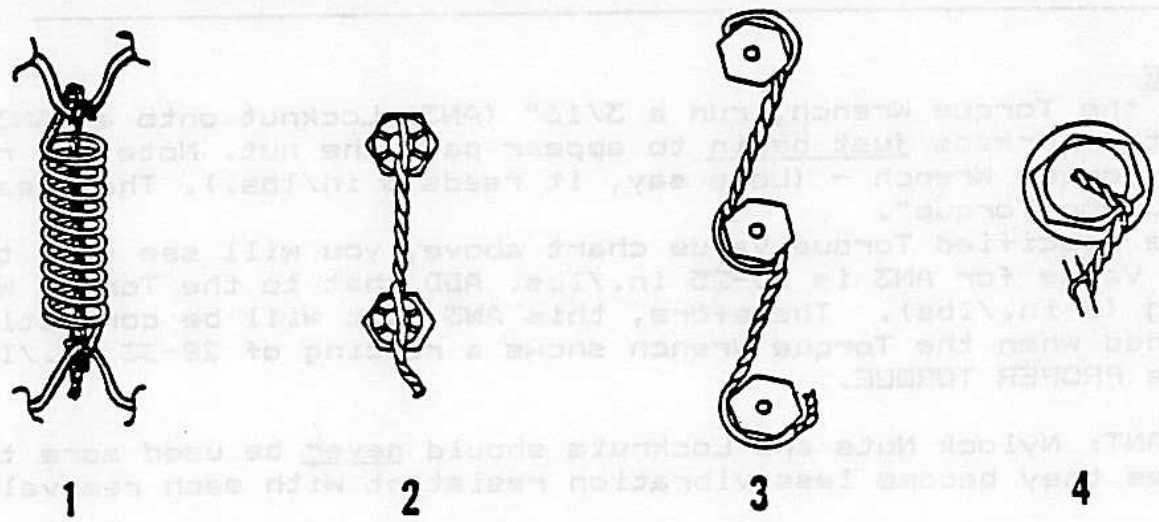
Certain Bolts on this aircraft must be Safety Wired. The wiring is arranged so that if a Nut or Bolt begins to loosen, the force applied to the wire is in the tightening direction.

CAUTION: Use only Aircraft-quality Safety Wire!

The following is the recommended method:

Tighten the Bolts to the Torque values specified in the relevant text. Ensure that the Safety Wire holes are aligned as shown. NEVER overtighten or loosen a torqued Bolt to align Safety Wire holes. Careful study of the illustration shows that:

Example 1 shows Safety Wiring thru Springs - as on the Exhaust System.
Example 2 shows Wiring to certain Castle Nuts and studs - NOTE: There is no loop around the Nut.
Example 3 shows several Bolts wired together - as on the Propeller.
Example 4 shows a single threaded component wired to a housing or lug.



THE NUTS & BOLTS OF THE GT

All Bolts used in the airframe of this kit are Aircraft Quality and are either "Graded" to military specification or they conform to the standards of the S.A.E. (Society of American Engineers).

The most commonly used bolts in this kit are fine-thread "AN" bolts. Coarse Thread Bolts in this kit are refered to as "Grade 5" Bolts and are used in specific locations throughout the aircraft, their positions will be shown in the text. IT IS DANGEROUS to substitute them for any other Bolt.

BOLT TIGHTENING

NEVER overtighten a Bolt. Tighten ONLY when and as instructed. Particular care is necessary when tightening bolts which pass through aluminum tubes with no solid internal support.

Be particularly careful when installing all Forkbolts or Eyebolts in the Wing, Aileron, Elevator, Stabilizer or Rudder tubes.

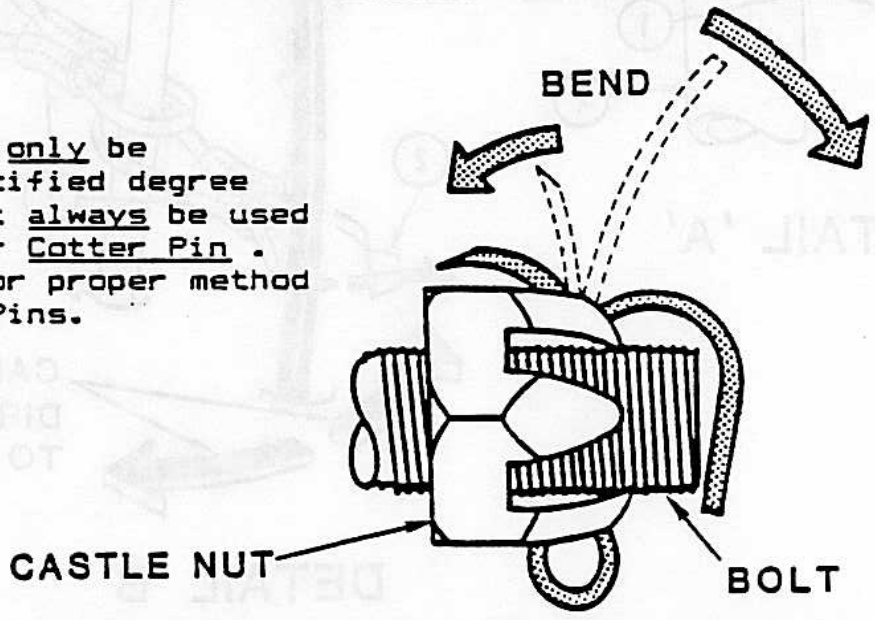
Before installing bolts, check that the grip-length is correct. When using Washers, ensure that at least one-and-a-half bolt thread extends out of the nut.

Bolts and Nuts should be clean and dry before installation. Threads should not be oiled. Bolts or Nuts with damaged threads and rough ends should NOT be used.

Wing Nuts should only be tightened by hand and must always be used with a Safety Ring.

Castle Nuts should only be tightened to the specified degree of tightness and must always be used with a Safety Ring or Cotter Pin .

SEE Illustration for proper method of bending Cotter Pins.



NOTE: When Castle Nuts are tightened, the Safety Ring or Cotter Pin Holes may not line up with the slots in the nuts when the Torque setting is reached. BACK OFF to the nearest slot. The Castle Nut must NEVER be overtightened to permit lining up the Safety Hole with the next tighter slot!

* *

WARNING!

BOLTS WHICH ARE SUBJECT TO ROTATION IN FLIGHT WILL USE "CASTLE" NUTS. A CASTLE NUT RELIES ON A SAFETY RING OR COTTER PIN TO PREVENT IT BACKING OFF. ALWAYS ENSURE CASTLE NUTS ARE SECURED WITH A SAFETY RING OR COTTER PIN!

* *

CONSTRUCTION NOTES - CONT.

NICO SLEEVE GUAGE PROCEDURE

****
ESSENTIAL PROCEDURE!
****

The Nico Sleeve Gauge (1) supplied with the kit, is used <u>during initial Parts Inventory</u> to verify the accuracy of the Wire Swages (2) on <u>all</u> flying and control Wires on the aircraft.

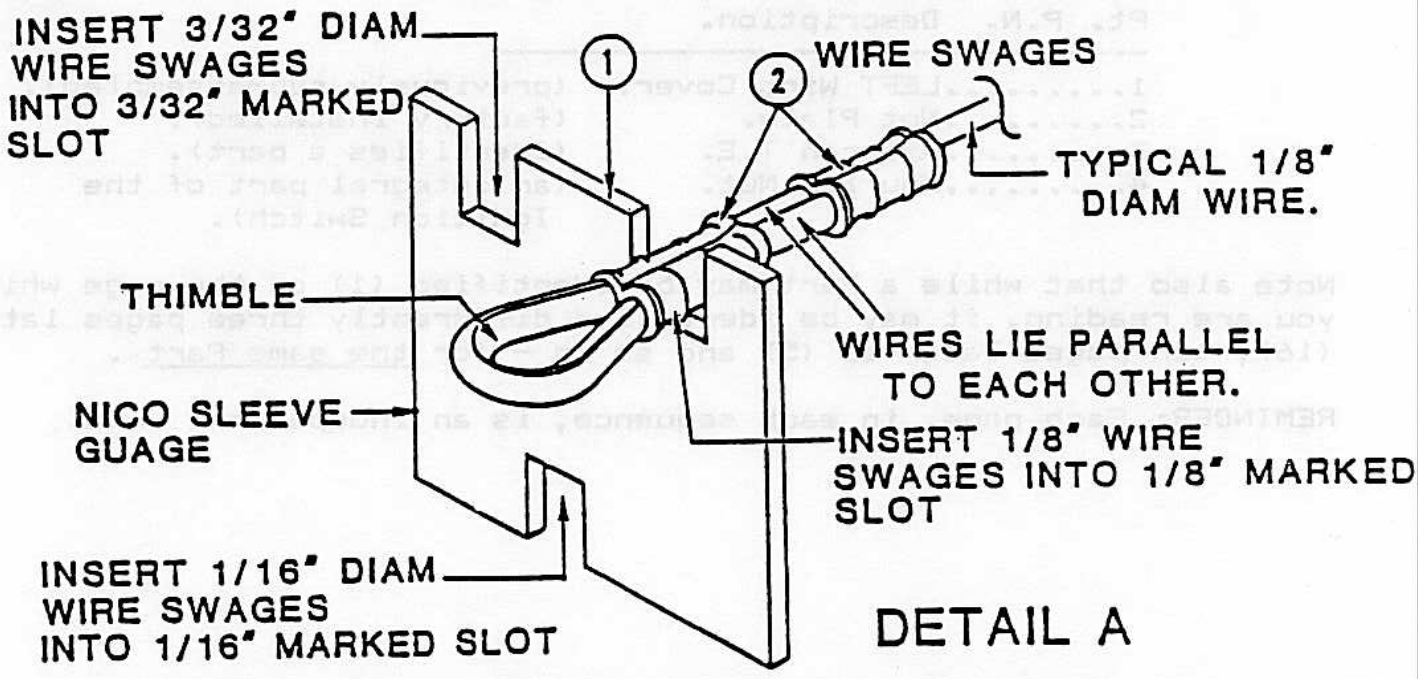
ALL Wire Swages (2) whether ending in Cable Bushings, Flat or angled Tangs or Thimbles MUST be checked with this Gauge.

You must ensure that where a wire passes around a Thimble (a typical example of which is shown below) its captured-end lies <u>parallel to</u> and side-by-side with the rest of the Wire and be untwisted within the Swages (2) and that the shape of each Swage (2) is symmetrical. Additionally you must check the whole length of the Wires for "nicks" or cuts in their jackets.

DO NOT USE Wires which show signs of transit damage, or that have broken or untwisted individual wires which make up a cable!

If you have questions about either this procedure or the results of your inspection - contact your Eipper Dealer.

1. Refer to Detail 'A'. The Nico Sleeve Gauge (1) has three precision machined notches which accept 1/16", 3/32" and 1/8" wire swaging sizes. Insert each Nico Sleeve into its appropriate slot and check its accuracy. NOTE: The Thimble end shown is typical, but notice the orientation and the position where the check is made on the swaging. There should be NO side-to-side movement possible when correctly positioned. There should be NO NEED to force the sleeve into the Gauge.



DETAIL A

****
WARNING! <u>NEVER</u> USE SUBSTITUTES. FIT WIRES <u>ONLY</u> IN THEIR DESIGNATED POSITIONS!
****

INTRODUCTION

Welcome to the world of Light Recreational Aircraft. We wish to thank you for choosing the QUICKSILVER GT 500 , a product we feel represents the State of the Art in this field of aviation.

In construction of your QUICKSILVER GT 500 , it is ESSENTIAL that you build the aircraft in strict accordance with these Assembly Instructions. We have prepared it in a step-by-step form to assist your construction process. PLEASE pay close attention to detail and the sequence of assembly while allowing plenty of time to complete each sequence.

CONSTRUCTION NOTES

These Assembly Instructions descibe and illustrate the recommended sequence of assembly of your QUICKSILVER GT 500.

In each sequence we will show sub-assemblies FIRST, usually in order of construction. There is a reason for this. Each sub-assembly will incorporate more and more complex operations.

Please read COMPLETELY through the Assembly Instructions at least once to familiarize yourself with our terminology and method of construction.

Whenever possible, the illustrations show the relative position of the part you will be working on. In some instances we will show a part with correct orientation (the right way up) when it's relative position is upside-down. In those particular instances you will be notified on the illustration.

Pay particular attention to the "NOTES" and sections marked "CAUTION", "IMPORTANT" or "ESSENTIAL", as well as "AS ILLUSTRATED". Please follow these instructions. We have specific reasons for assembling something that particular way.

We have Factory Assembled some of the major components leaving you with relatively little drilling, riveting, filing and shaping to complete the assembly of this kit.

While it is possible to complete this kit in a relatively short period of time, accuracy and thoroughness are factors more important than the time spent constructing this aircraft. Care and patience will be rewarded by better control response, higher reliability and a better looking QUICKSILVER GT 500 which will be a credit to both of us.

We sincerely hope you enjoy the experience of constructing your own QUICKSILVER GT 500 aircraft.

WARNING

ULTRALIGHT AND EXPERIMENTAL AIRCRAFT FLIGHT CAN BE DANGEROUS. FLY AT YOUR OWN RISK.

FLIGHT LIMITATIONS OF QUICKSILVER ENTERPRISES PRODUCTS

A complete ground school and flight instruction program through an authorized Quicksilver Dealer and thorough review of the owners manual is required before attempting flight. For safety, it is essential to follow the owner's manual recommendations pertaining to the assembly, maintenance and operation of this aircraft. Operation not in strict accordance with the owner's manual may be unsafe, dangerous, or even fatal.

THIS VEHICLE IS NOT APPROVED FOR AEROBATIC MANEUVERS. PITCH MAY NOT EXCEED 30° AND THE ANGLE OF BANK MAY NOT EXCEED 60°. SPINS ARE PROHIBITED. STEEP LOW LEVEL TURNS SHOULD BE AVOIDED. ALWAYS FLY WITHIN POWER OFF GLIDING DISTANCE OF A SAFE LANDING AREA. OPERATION IN ACCORDANCE WITH FEDERAL AVIATION ADMINISTRATION REGULATION REQUIRED. ALWAYS EXERCISE DUE CARE AND REASONABLE JUDGMENT. FLIGHT SHOULD ONLY BE ATTEMPTED IN ACCEPTABLE AND SAFE WEATHER CONDITIONS AND WHEN YOU AND YOUR VEHICLE ARE IN AN AIRWORTHY CONDITION.

Ultralight and experimental aircraft flight involves travel in three dimensions. Such activity is subject to mishap, injury and even death. The pilot acknowledges these dangers and attempts flight strictly at his/her own risk. Aluminum and other material components will conduct electricity. DO NOT FLY in the vicinity of power lines, electrical storms, ground cables, or other obstructions. Contacting and/or coming near such obstacles or storms is extremely hazardous and can cause serious or fatal injury.

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CHOKE

PULL-RICH
TURN TO LOCK

THROTTLE OPEN — CLOSE

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EXPERIMENTAL
AMATEUR-BUILT AIRCRAFT

MODEL
SERIAL NO. EMPTY WT.
DATE OF MFG. GROSS WT.
ENGINE H.P.

BUILT BY

NAME
ADDRESS
CITY & STATE

FUEL SYSTEM

The fuel system consists of a 8.5 gallon(32.2 litres) fuel tank, fuel filter, carburetor and engine driven vacuum fuel pump. A fuel shut off valve is located on the rear of the tank. The fuel tank is mounted in the root of the wing and is secured by adjustable straps to permit . The tank is vented at the top. The vent must be unobstructed to allow for proper operaton of the fuel system. **CAUTION: Failure to ensure fuel tank venting will result in Engine Failure!** The see- through fuel filter is located in the fuel line between the fuel tank and the fuel pump. It should be inspected prior to each flight to ensure that it does not obtain contaminents. The see-through fuel line must also be inspected for contaminents. If contaminents exist, the fuel system must be drained and flushed prior to running the engine. A fuel drain valve is located in the bottom of the tank. Drain a small amount of fuel before each flight to inspect for water and contaminents. Make sure fuel valve is shot off before flight.

BRAKE SYSTEM

The aircraft is equipped with a nose wheel brake. The brake pedal is located slightly below and to the right of the right rudder pedal. When depressed, a friction plate is pressed on the nose wheel tire. The braking effectiveness is determined by the amount of pressure applied to the brake pedal, the amount of weight on the nose wheel, and the type of surface on which the nose wheel tire is rolling. Braking should be kept to a minimum since it imposes higher than normal loads on the nose gear structure. The use of proper taxi speeds and the selection of proper runway lengths will extend the service life of the landing gear system.

AIRSPEED INDICATOR

The aircraft is equipped with an airspeed indicator located in the instrument panel. It is calibrated in miles per hour. Limitation and range markings. The airspeed indicator operates by displaying the difference in pressure of ram air entering through the pitot tube located on he nose of the aircraft, and static air pressure inside the instrument. In order to operate properly, the pitot tube located on the nose of the aircraft and static port (on the left side of the forward fusalage must be free of obstructions. The airspeed indicator MUST NOT be used as the SOLE reference of actual airspeed since it is subject to variation and error. The feel and sound of the aircraft should also be considerated in the determination of actual airspeed.

ENGINE

The GT 500 is powered by a twin cylinder, water cooled two-cycle Otto engine. The engine is a Rotax 582/40 - 580.7 cc Displacement, rated at 65 horsepower at 6500 RPM. Major components include Helical Gear reduction drive system, exhaust system, and a mechanical rewind manual starter.

THROTTLE CONTROL

The throttle is a cable controlled system with the throttle control lever located to the right side of both pilot's seats. Moving the lever forward increases RPM; moving the lever aft decreases RPM. For Servicing the throttle cable as precribe by Legend 1 of the Powerplant Maintenance Schedule use Oil specification VV-L-800A or Equivalent.

CHOKE CONTROL

The choke system is a cable controlled system. The choke control knob is located to the right of the front pilot's seat. The choke is used to enrichen the fuel/air mixture to aid in cold engine starts.

ENGINE BREAK-IN AND OPERATION

It is required that the proper engine break-in procedures be followed exactly as described in the Rotax Operator's Manual. Any deviation from this procedure could cause engine malfunction and/or failure. It is also suggested that continuous engine operation at RPM's above 6300 RPM for periods in excess of 5 minutes be avoided.

FUEL/OIL MIXTURE

The fuel to oil mixture ratio is 50:1. The fuel must have a minimum rating of 83 octane. The oil must meet or exceed B.I.A. or T.C.W. specifications. The oil container must be marked BIA-TCW-2 cycle. The mixing procedure should be followed as described in the Rotax Operator's Manual.

Air Filter

The Air Filters for the carburators should be cleaned as precribled by Legend 1 of the Powerplant Maintenance Schedule with regular gasoline.

AIRFRAME

Note:For Servicing as precribed by Legend 1 in the Maintenance Schedules for all hinged points and movable connections use General Purpose Oil Mil-l-7078-A or equivalent.

The primary construction material of the airframe is of tubular aircraft grade aluminum. Major items of struture are the forward fuselage and tail boom tubes. The flight controls, nose wheel, and seat are attached to the forward fuselage tube. The mounting structure for the root tube is attached to the aft section of the forward fuselage tube and the forward section of the tail boom tube. The main landing gear carry-thru is the jointing structure of the two boom tubes. The empennage (tail assembly) is attached to the aft section of the tail boom tube.

The externally braced wings are constructed of a front (leading edge) and rear (trailing edge) spar held in place by compression and diagonal struts. The airfoil shape is maintanined by formed tubular ribs contained in upper and lower pockets in the Dacron wing covering. The leading edge and trailing edge spars are equipped wih wing-to-root tube and wing-to-strut attachment fittings. Conventional hinged ailerons are attached to the outboard section of the trailing edge of the wings. Conventional flaps are attached to the inboard trailing edge of the wings.

The tail assembly consists of a conventional vertical stabilizer, rudder, adjustable horizontal stabilizer, and elevator. The tail assembly flight surfaces are covered with Dacron. An adjustable cockpit trim is incorporated into the horizontal stabilizer (refer to the SECTION 4 for proper adjustment procedures).

FLIGHT CONTROLS

The aircraft's flight control system consists of conventional aileron, rudder, and elevator control surfaces. The control surfaces are manually operated through mechanical linkage using the control wheel for the ailerons and elevator, and rudder pedals for the rudder. The elevator control system is equipped with a balance spring which provides improved stability in flight. There are front and rear seat controls for aileron, rudder, elevator and trim.

Trim System

Throughly inspect the trim system starting at the trim lever positions at the front and rear pilot seat positons. Check for free movement while observing the stabilizer moving down while pushing the lever forward, and up while pulling the lever aft. Inspect lever and pushpull connections through the 1" inspection holes on the left side of the forward fuselege tube directly behind the trim lever.

Inspect the Rear pushrods and bellcranks of the trim system at stabilizer. Un sip the vertical stabilizer cover to lower rod and bellcrank. Inspect push pull tube connection through the 1" hole in the left side of rear fuselege tube. Check to see that the horizantial stabilizer is moving the full travel of the upper trim slide plates.

INTRODUCTION

This manual is divided into 9 sections. It contains all information and data as required by the Professional Ultralight Manufactures Association (PUMA) as approved by the Federal Aviation Administration (FAA) and/or other agencies. Quicksilver Enterprises Inc., has included additional information that will assist you in the operarion of the Quicksilver GT. For safety, a thorough understanding of this manual is essential.

DESCRIPTIVE DATA AND SPECIFICATIONS

ENGINE :	**GT500**
Manufacturer:	Bombardier-Rotax
Model:	582/40
Displacement:	582/40 cc
Type:	Twin cyl.
	two-cycle, air-cooled, single magneto ignition
Spark Plug:	NGK B8ES, gap- .016-.020 in. (.04-.05 cm.)
Horsepower:	65 hp @ 6500rpm
Recommended Time Before Overhaul:	(TBO) 250 hrs.

REDUCTION DRIVE SYSTEM :	**GT500**
Type:	Helical Gear
Number of Belts:	N/A
Belt Type:	N/A
Gear Oil:	SAE 85W90 (400cc)
Reduction Ratio:	2.58 to 1

PROPELLER:	**GT500**
Type:	Fixed pitch, two blade, wooden
	Quicksilver Part# 30251
Diameter:	68 in. (1727 mm)
Pitch:	38in (965 mm)-RH
Maximinum Speed:	2800 rpm

AILERON TRAVEL
- UP.....27 degrees
- DOWN.....16 degrees

WING FLAP TRAVEL
- UP.....0 degerees
- DOWN.....38 degrees

RUDDER TRAVEL (Measured Perpendicular to Hinge Line)
- RIGHT.....25 degrees
- LEFT.....25 degrees

ELEVATOR TRAVEL
- UP.....39 degrees
- DOWN.....25 degrees

STABILIZER INCIDENCE
- UP. (Top).....1 degree negative
- DOWN. (Bottom).....5 degrees negative

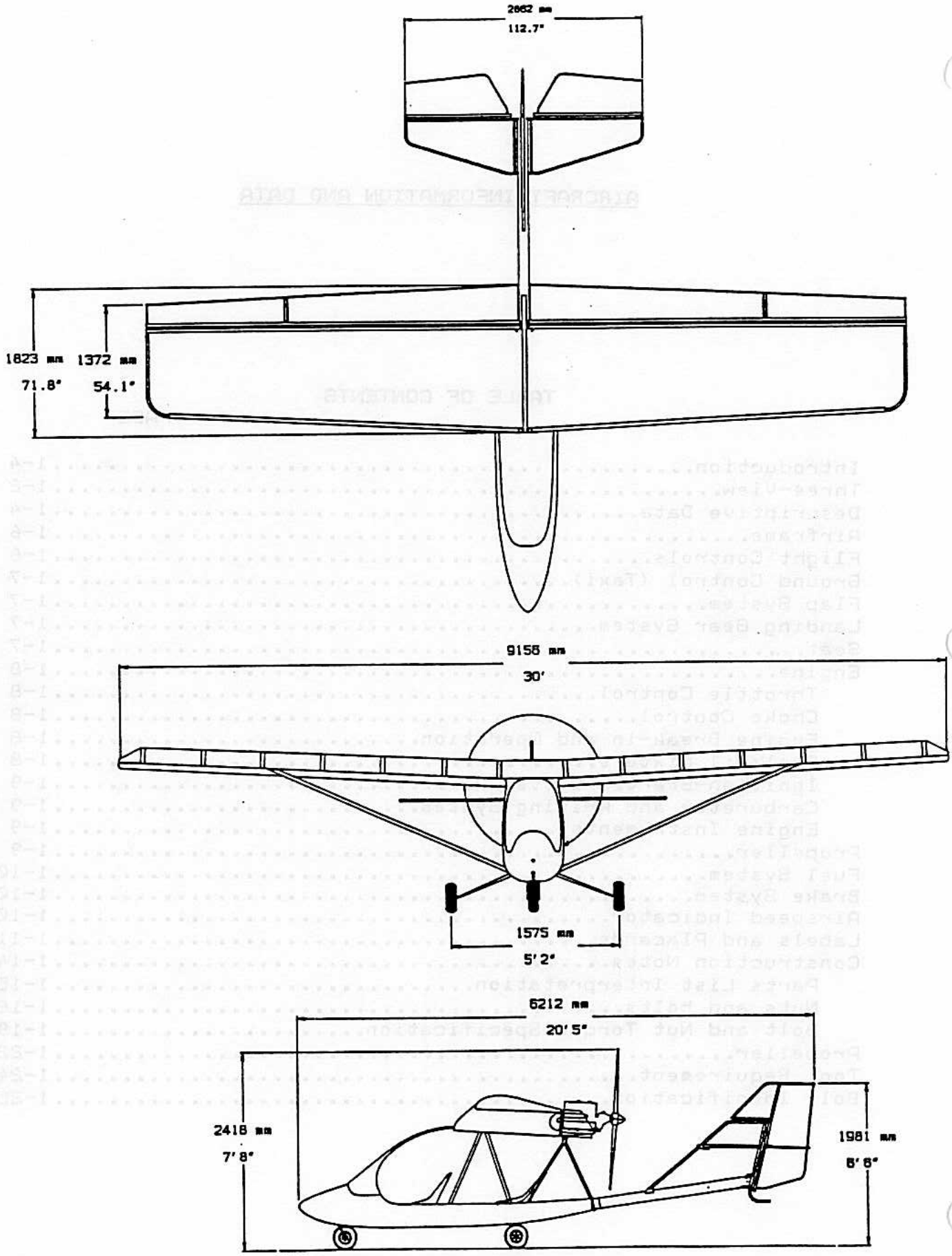
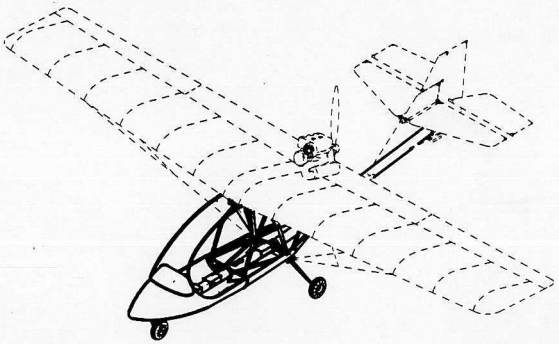


Figure 1-2: Strut Braced GT - Three View

SECTION 2 - FWD.FUSELAGE



DOC # 902-1 DATE 03/28/90

SECTION 5 - FWD.FUSELAGE

SECTION 2

FORWARD FUSELAGE

INBOARD FORWARD SIDE STRUT ASSEMBLY.....2-8

OUTBOARD FORWARD SIDE STRUT ASSEMBLY.....2-10

FORWARD FUSELAGE DOWNTUBE ASSEMBLY.....2-12

FORWARD DOWNTUBE ASSEMBLY.....2-14

AFT DOWNTUBE ASSEMBLY.....2-16

AFT SIDE STRUT AND TAIL BOOM DOWN STRUT ASSEMBLY.....2-18

FORWARD AND CENTER ELEVATOR PUSH/PULL TUBE ASSEMBLY.....2-20

FORWARD AND CENTER TRIM PUSH/PULL TUBE ASSEMBLY.....2-22

AFT RUDDER BELLCRANK AND RUDDER PEDAL PUSHROD ASSEMBLY.....2-24

FORWARD RUDDER PEDAL ASSEMBLY AND ATTACHMENT.....2-26

FORWARD CONTROL WHEEL
SUPPORT TUBE (YOKE) ASSEMBLY AND ATTACHMENT.....2-28

AFT CONTROL WHEEL
SUPPORT TUBE (YOKE) ASSEMBLY AND ATTACHMENT.....2-30

AFT ELEVATOR TRIM LEVER ATTACHMENT.....2-34

FORWARD ELEVATOR TRIM LEVER ATTACHMENT.....2-36

ROLLER MOUNT CHANNEL AND LANDING GEAR DRAG
BRACKET ATTACHMENT TO LANDING GEAR CARRY THRU.....2-38

LANDING GEAR CARRY THRU ASSEMBLY AND
ATTACHMENT TO FORWARD FUSELAGE TUBE ASSEMBLY.....2-40

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SECTION 2

FORWARD FUSELAGE (CONT'D.)

LANDING GEAR LEG AND STRUT PLATE ATTACHMENT.....2-42

MAIN WHEEL / NOSE WHEEL AND TIRE ASSEMBLY.....2-44

INBOARD FORWARD SIDE STRUT ATTACHMENT.....2-46

RUDDER PEDAL ASSEMBLY AND ATTACHMENT.....2-48

AFT RUDDER PEDAL AND PEDAL MOUNT CHANNEL ATTACHMENT.....2-50

AFT RUDDER PEDAL PUSHROD ASSEMBLY
TO FOOT PEDAL ATTACHMENTATTACHMENT.....2-50A

FORWARD FUSELAGE DOWNTUBE ATTACHMENT.....2-52

OUTBOARD FORWARD SIDE STRUT ATTACHMENT.....2-54

FORWARD RUDDER PEDAL AND RUDDER PEDAL PUSHROD ATTACHMENT...2-56

NOSE WHEEL ASSEMBLY AND ATTACHMENT.....2-58

FORWARD AND AFT DOWNTUBE ATTACHMENT
TO LANDING GEAR CARRY THRU ASSEMBLY.....2-60

FORWARD FUSELAGE DOWNTUBE /
FORWARD DOWNTUBE AND AFT DOWNTUBE TO ROOT TUBE ATTACHMENT..2-62

FORWARD SEAT BELT BRACKET AND
DOWNTUBE ATTACH PLATE ATTACHMENT.....2-64

FLAP HANDLE ASSEMBLY AND ATTACHMENT.....2-66

ROOT TUBE BELLCRANK AND
TAIL BOOM DOWN STRUT UPPER ATTACHMENT.....2-68

FORWARD AND AFT CONTROL WHEEL ATTACHMENT.....2-70

AILERON PUSH/PULL CABLE TO
ROOT TUBE BELLCRANK ATTACHMENT.....2-72

PUSH/PULL CONTROL CABLE ADJUSTMENT.....2-74

AFT ELEVATOR AND AFT TRIM PUSH/PULL TUBE ASSEMBLY.....2-76

AFT ELEVATOR PUSH/PULL TUBE INSTALLATION.....2-78

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FORWARD FUSELAGE (CONT'D.)

PUSH/PULL ROLLER ATTACHMENT.....2-80

TAIL BOOM ATTACHMENT TO LANDING GEAR CARRY THRU/
AFT ELEVATOR AND TRIM PUSH/PULL TUBE ATTACHMENT.....2-82

AFT SIDE STRUT AND TAIL BOOM DOWN TUBE ASSEMBLY.....2-84

FLAP BELLCRANK AND
BELLCRANK BRACKET ASSEMBLY AND ATTACHMENT.....2-84A

FLAP PULL ROD ATTACHMENT.....2-84B

FORWARD SEAT ATTACHMENT.....2-86

AFT SEAT ATTACHMENT.....2-88

FORWARD SEAT BELT AND SEAT LOCK PIN ATTACHMENT.....2-90

AFT SEAT LOCK PIN ATTACHMENT.....2-92

AFT SEAT BELT AND SHOULDER BELT ATTACHMENT.....2-94

FORWARD SHOULDER BELT
AND STARTER ROPE PULLEY ATTACHMENT.....2-96

FORWARD THROTTLE LEVER ASSEMBLY AND ATTACHMENT.....2-98

THROTTLE LINK TUBE ATTACHMENT.....2-100

AFT THROTTLE KNOB ASSEMBLY AND ATTACHMENT.....2-102

FUSELAGE SUPPORT TUBE ATTACHMENT.....2-104

PILOT ENCLOSURE LOWER MOUNTING BRACKET ATTACHMENT.....2-106

PILOT ENCLOSURE ATTACHMENT.....2-108

PILOT ENCLOSURE ATTACHMENT (CONT'D.).....2-110

LOWER CENTER FAIRING ATTACHMENT.....2-112

LOWER CENTER FAIRING ATTACHMENT (CONT'D.).....2-114

LOWER CENTER FAIRING AFT ATTACHMENT.....2-116

LOWER AFT FAIRING ATTACHMENT.....2-118

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LOWER AFT FAIRING ATTACHMENT (CONT'D.).....2-120

INSTRUMENT PANEL TO PILOT ENCLOSURE ATTACHMENT.....2-122

INSTRUMENT PANEL TO PILOT ENCLOSURE ATTACHMENT (CONT'D.)..2-124

AIRSPEED ATTACHMENT TO INSTRUMENT PANEL
AND PITOT TUBE / STATIC PORT ATTACHMENT.....2-126

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"THIS PAGE INTENTIONALLY LEFT BLANK".....2-130

FUEL TANK SUB-ASSEMBLY.....2-132

FUEL TANK ASSEMBLY AND ATTACHMENT.....2-134

PYLON BULKHEAD ATTACHMENT.....2-136

ALUMINUM PYLON COVER ATTACHMENT.....2-138

ALUMINUM PYLON COVER ATTACHMENT (CONT'D.).....2-140

FORWARD THROTTLE LEVER ASSEMBLY.....2-142

AFT THROTTLE LEVER ASSEMBLY.....2-144

THROTTLE LINK TUBE ASSEMBLY.....2-146

FORWARD THROTTLE MOUNT PLATE ATTACHMENT.....2-148

AFT THROTTLE MOUNT PLATE AND
DUAL THROTTLE LINK TUBE ATTACHMENT.....2-150

"THIS PAGE INTENTIONALLY LEFT BLANK".....2-152

TEMPLATE "F-1" HOLE CUT-OUT FOR FORWARD FLAP PULL ROD.....2-153

INBOARD FORWARD SIDE STRUT ASSEMBLY

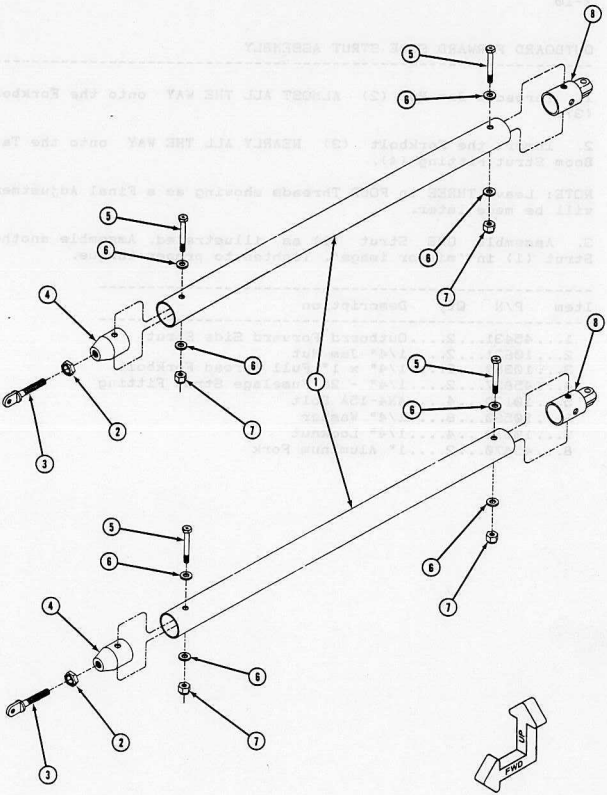
1. Thread a Jam Nut (2) ALMOST ALL THE WAY onto the Eyebolt (3).

2. Insert the Eyebolt (3) NEARLY ALL THE WAY into the Tail Boom Strut Fitting (4).

NOTE: Leave THREE to FOUR Threads showing as a Final Adjustment will be made later.

3. Assemble ONE Strut (1) as illustrated. Assemble another Strut (1) in "mirror image". Tighten to proper torque.

Item	P/N	Qty	Description
1	45430	2	Inboard Forward Side Strut
2	10542	2	5/16" Jam Nut
3	10377	2	5/16" x 1 3/32" Full Thread Eyebolt
4	45468	2	Tail Boom Strut Fitting
5	10120	4	AN4-15A Bolt
6	10560	8	1/4" Washer
7	10510	4	1/4" Locknut
8	45470	2	1" Aluminum Fork


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OUTBOARD FORWARD SIDE STRUT ASSEMBLY

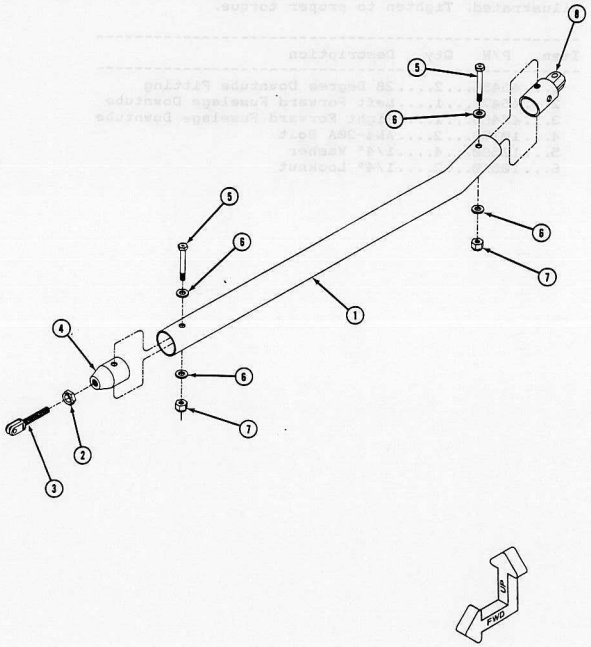
1. Thread a Jam Nut (2) ALMOST ALL THE WAY onto the Forkbolt (3).

2. Insert the Forkbolt (3) NEARLY ALL THE WAY onto the Tail Boom Strut Fitting (4).

NOTE: Leave THREE to FOUR Threads showing as a Final Adjustment will be made later.

3. Assemble ONE Strut (1) as illustrated. Assemble another Strut (1) in 'mirror image'. Tighten to proper torque.

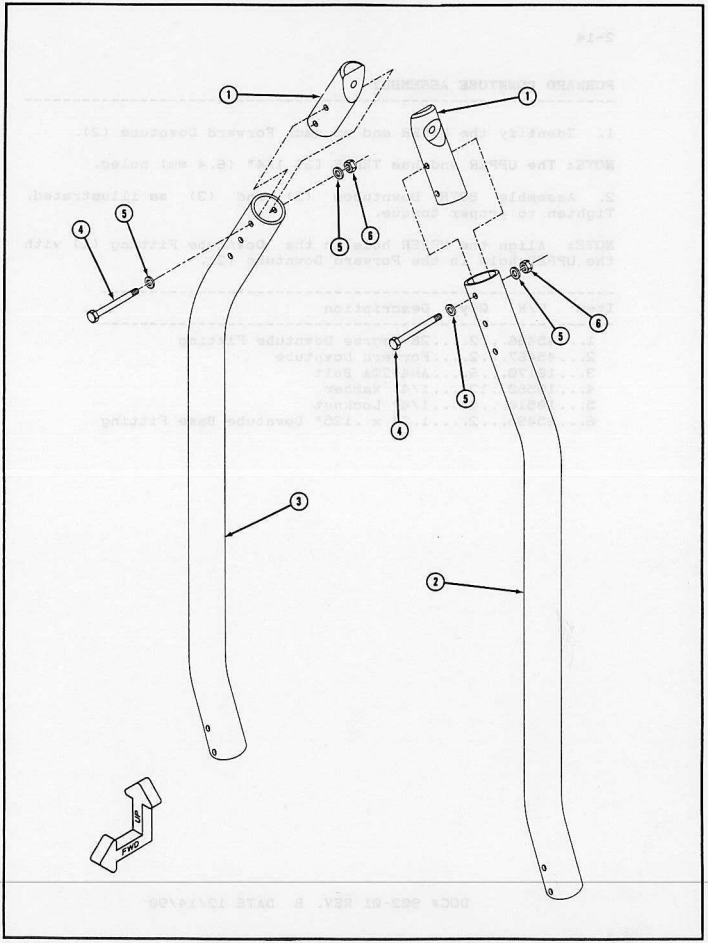
Item	P/N	Qty	Description
1	45431	2	Outboard Forward Side Strut
2	10631	2	1/4" Jam Nut
3	10388	2	1/4" x 1" Full Thread Forkbolt
4	45827	2	1/4" - 28 Fuselage Strut Fitting
5	10120	4	AN4-15A Bolt
6	10560	8	1/4" Washer
7	10510	4	1/4" Locknut
8	45470	2	1" Aluminum Fork


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FORWARD FUSELAGE DOWNTUBE ASSEMBLY

1. Assemble the Forward Fuselage Downtubes (2) and (3) as illustrated. Tighten to proper torque.

Item	P/N	Qty	Description
1	45456	2	28 Degree Downtube Fitting
2	45471	1	Left Forward Fuselage Downtube
3	45469	1	Right Forward Fuselage Downtube
4	10170	2	AN4-20A Bolt
5	10560	4	1/4" Washer
6	10510	2	1/4" Locknut


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FORWARD DOWNTUBE ASSEMBLY

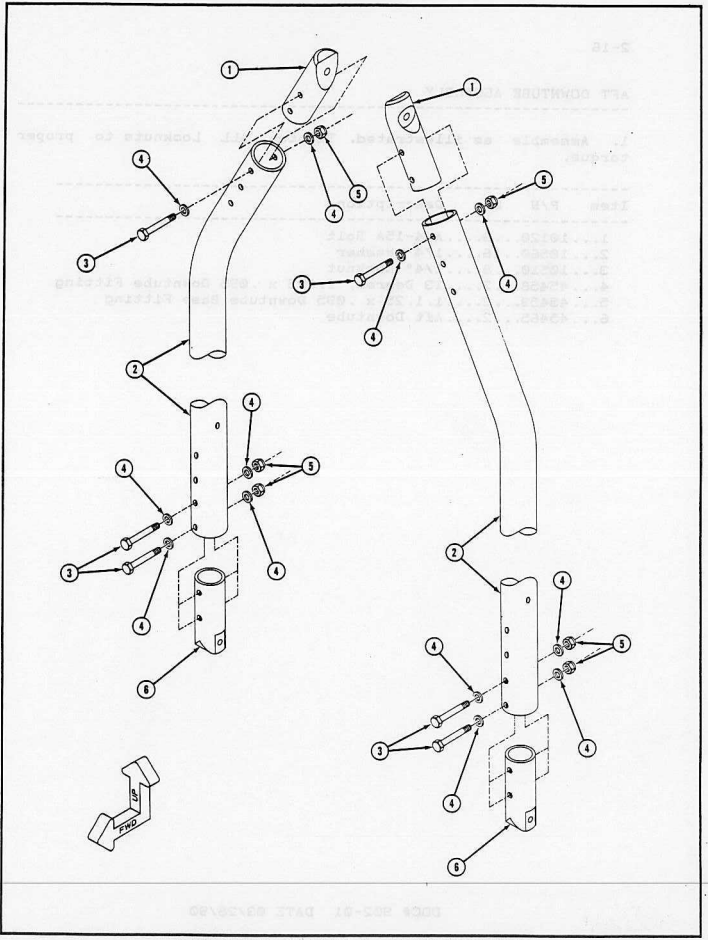
1. Identify the UPPER end of each Forward Downtube (2).

NOTE: The UPPER end has THREE [3] 1/4" (6.4 mm) holes.

2. Assemble BOTH Downtubes (2) and (3) as illustrated. Tighten to proper torque.

NOTE: Align the UPPER hole in the Downtube Fitting (1) with the UPPER hole in the Forward Downtube (2).

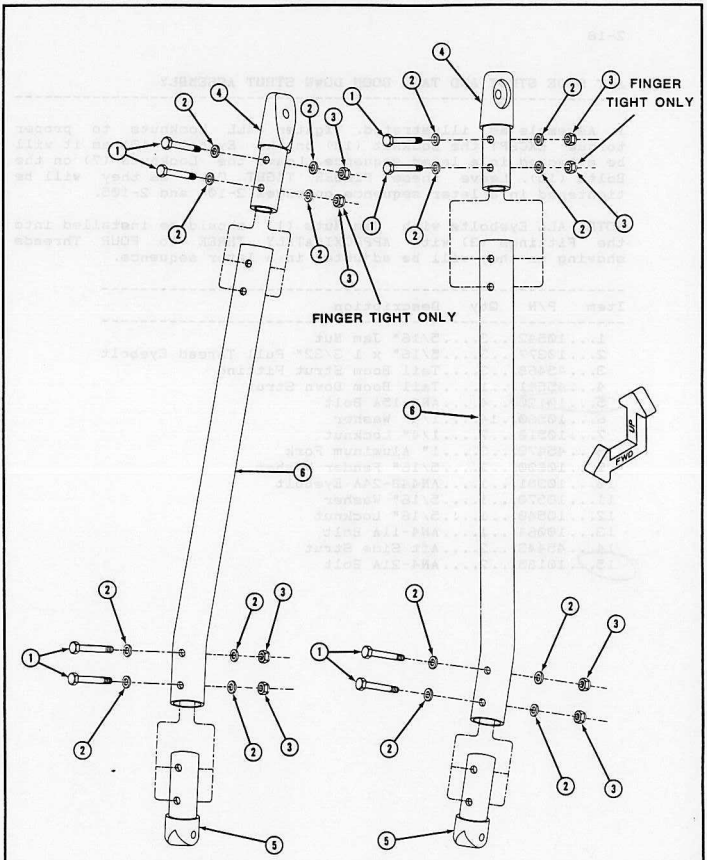
Item	P/N	Qty	Description
1	45456	2	28 Degree Downtube Fitting
2	45467	2	Forward Downtube
3	10170	6	AN4-20A Bolt
4	10560	12	1/4" Washer
5	10510	6	1/4" Locknut
6	45496	2	1.5" x .125" Downtube Base Fitting


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FWD

AFT DOWNTUBE ASSEMBLY

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

Item	P/N	Qty	Description
1	10120	8	AN4-15A Bolt
2	10560	16	1/4" Washer
3	10510	8	1/4" Locknut
4	45458	2	13 Degree, 1.125 x .095 Downtube Fitting
5	45453	2	1.1.25 x .095 Downtube Base Fitting
6	45465	2	Aft Downtube

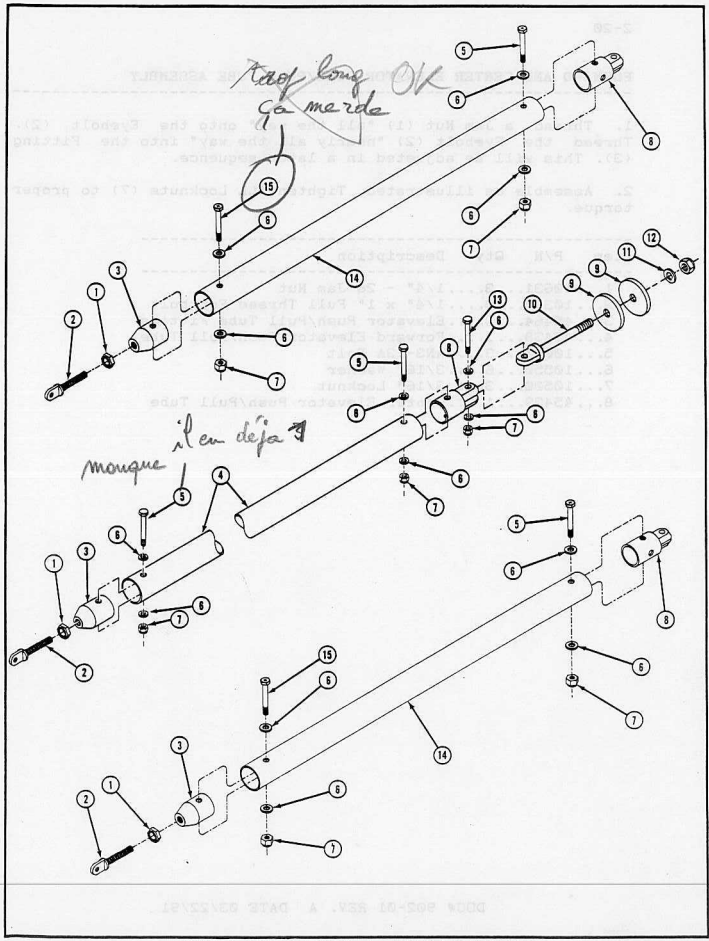

FINGER TIGHT ONLY
FINGER TIGHT ONLY
FWD

AFT SIDE STRUT AND TAIL BOOM DOWN STRUT ASSEMBLY

1. Assemble as illustrated. Tighten ALL Locknuts to proper torque EXCEPT the Locknut (12) on the Eyebolt (10) as it will be attached in a later sequence. Leave the Locknuts (7) on the Bolts (15). Leave these FINGER TIGHT ONLY as they will be tightened in a later sequence on pages 2-104 and 2-105.

NOTE: ALL Eyebolts with Jam Nuts (1) should be installed into the Fittings (3) with APPROXIMATELY THREE to FOUR Threads showing as they will be adjusted in a later sequence.

Item	P/N	Qty	Description
1	10542	3	5/16" Jam Nut
2	10377	3	5/16" x 1 3/32" Full Thread Eyebolt
3	45468	3	Tail Boom Strut Fitting
4	45541	1	Tail Boom Down Strut
5	10120	4	AN4-15A Bolt
6	10560	14	1/4" Washer
7	10510	7	1/4" Locknut
8	45470	3	1" Aluminum Fork
9	10600	2	5/16" Fender Washer
10	10381	1	AN44B-24A Eyebolt
11	10570	1	5/16" Washer
12	10540	1	5/16" Locknut
13	10064	1	AN4-11A Bolt
14	45443	2	Aft Side Strut
15	10185	2	AN4-21A Bolt

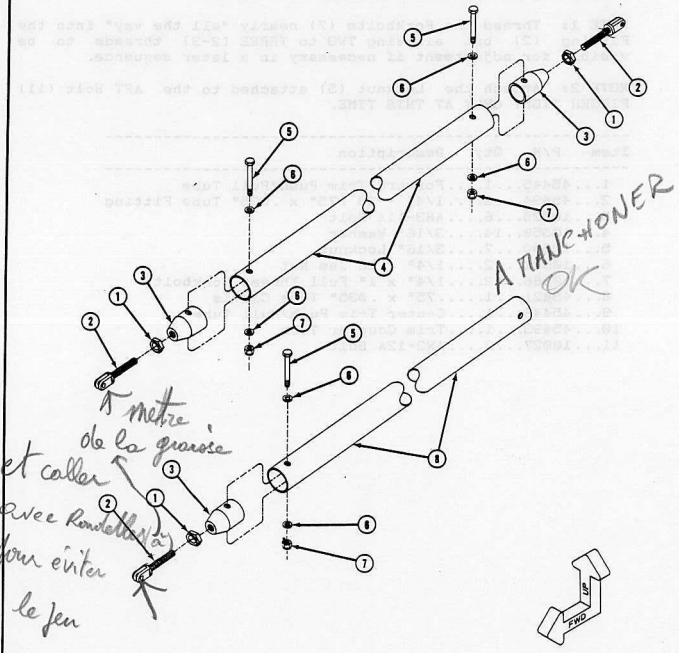

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FORWARD AND CENTER ELEVATOR PUSH/PULL TUBE ASSEMBLY

1. Thread a Jam Nut (1) "all the way" onto the Eyebolt (2). Thread the Eyebolt (2) "nearly all the way" into the Fitting (3). This will be adjusted in a later sequence.

2. Assemble as illustrated. Tighten ALL Locknuts (7) to proper torque.

Item	P/N	Qty	Description
1	10631	3	1/4" - 28 Jam Nut
2	10388	3	1/4" x 1" Full Thread Forkbolt
3	45464	3	Elevator Push/Pull Tube Fitting
4	45438	1	Forward Elevator Push/Pull Tube
5	10030	3	AN3-13A Bolt
6	10550	6	3/16" Washer
7	10500	3	3/16" Locknut
8	45439	1	Center Elevator Push/Pull Tube


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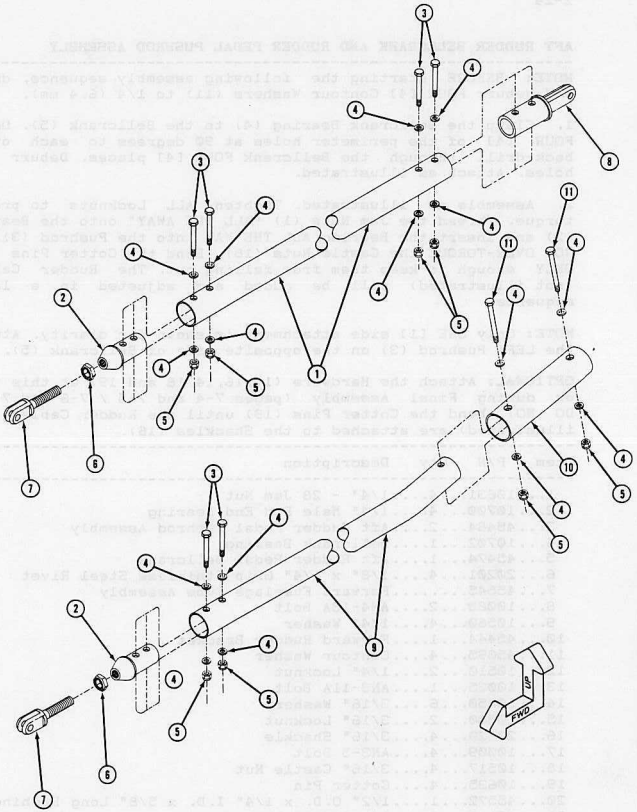
FORWARD AND CENTER TRIM PUSH/PULL TUBE ASSEMBLY

1. Assemble as illustrated. Tighten ALL Locknuts (5) to proper torque. DO NOT DISTORT THE TUBES (9) and (10).

NOTE 1: Thread the Forkbolts (7) nearly "all the way" into the Fitting (2) but allowing TWO to THREE [2-3] threads to be visible for adjustment if necessary in a later sequence.

NOTE 2: Attach the Locknut (5) attached to the AFT Bolt (11) FINGER TIGHT ONLY AT THIS TIME.

Item	P/N	Qty	Description
1	45445	1	Forward Trim Push/Pull Tube
2	45494	2	1/4" - 28 .75" x .035" Tube Fitting
3	10025	6	AN3-11A Bolt
4	10550	14	3/16" Washer
5	10500	7	3/16" Locknut
6	10631	2	1/4" - 28 Jam Nut
7	10388	2	1/4" x 1" Full Thread Forkbolt
8	45421	1	.75" x .035" Tube Clevis
9	45446	1	Center Trim Push/Pull Tube
10	45493	1	Trim Coupler Tube
11	10027	2	AN3-12A Bolt


FWD
UP

AFT RUDDER BELLCRANK AND RUDDER PEDAL PUSHROD ASSEMBLY

NOTE: BEFORE starting the following assembly sequence, drill and deburr FOUR [4] Contour Washers (11) to 1/4 (6.4 mm).

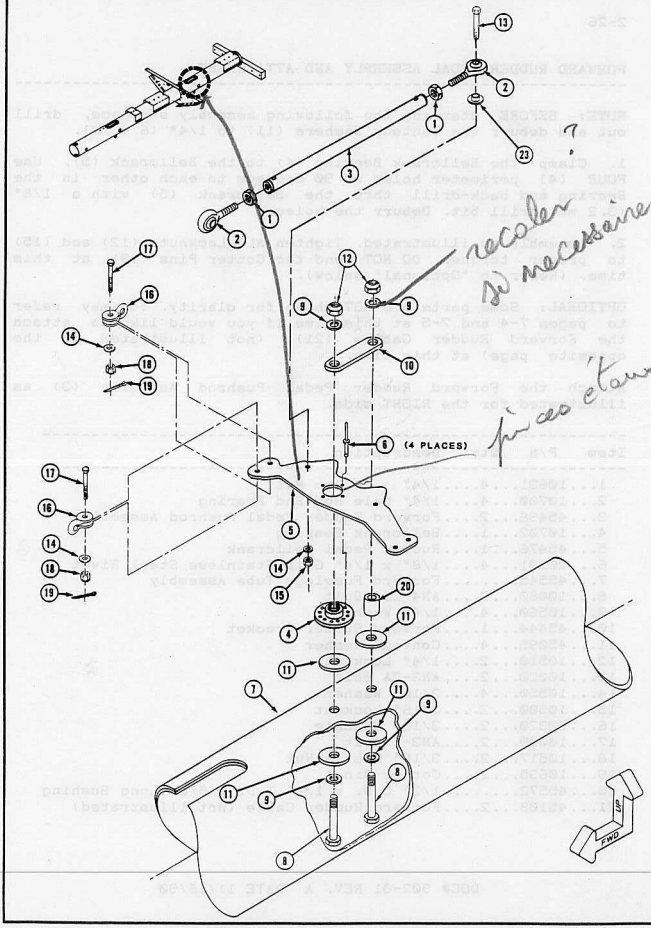
1. Clamp the Bellcrank Bearing (4) to the Bellcrank (5). Using FOUR [4] of the perimeter holes at 90 degrees to each other back-drill through the Bellcrank FOUR [4] places. Deburr the holes. Attach as illustrated.

2. Assemble as illustrated. Tighten ALL Locknuts to proper torque. Thread the Jam Nuts (1) "ALL THE AWAY" onto the Bearing (2) and insert the Bearing ALL THE WAY into the Pushrod (3). DO NOT OVER-TORQUE the Castle Nuts (18). Bend the Cotter Pins (19) ONLY enough to keep them from falling out. The Rudder Cables (not illustrated) will be added and adjusted in a later sequence.

NOTE: Only ONE [1] side attachment is shown for clarity. Attach the LEFT Pushrod (3) on the opposite side of Bellcrank (5).

OPTIONAL: Attach the Hardware (17,16,14,18 and 19) at this time or during Final Assembly (pages 7-4 and 7-5 / 7-6 and 7-7). DO NOT bend the Cotter Pins (19) until the Rudder Cables (not illustrated) are attached to the Shackles (16).

Item	P/N	Qty	Description
1	10631	4	1/4" - 28 Jam Nut
2	10700	4	1/4" Male Rod End Bearing
3	45484	2	Aft Rudder Pedal Pushrod Assembly
4	10702	1	Bellcrank Bearing
5	45474	1	Aft Rudder Pedal Bellcrank
6	20201	4	1/8" x 1/4" Grip Stainless Steel Rivet
7	45545		Forward Fuselage Tube Assembly
8	10080	2	AN4-13A Bolt
9	10560	4	1/4" Washer
10	45444	1	Forward Rudder Bracket
11	45095	4	Contour Washer
12	10510	2	1/4" Locknut
13	10025	1	AN3-11A Bolt
14	10550	6	3/16" Washer
15	10500	2	3/16" Locknut
16	20320	4	3/16" Shackle
17	10009	4	AN3-5 Bolt
18	10517	4	3/16" Castle Nut
19	10635	4	Cotter Pin
20	45572	1	1/2" O.D. x 1/4" I.D. x 5/8" Long Bushing
21	45110	2	Aft Rudder Cable
22	20241	4	"T" Bushing



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FORWARD RUDDER PEDAL ASSEMBLY AND ATTACHMENT

NOTE: BEFORE starting the following assembly sequence, drill out and deburr the Contour Washers (11) to 1/4" (6.4 mm).

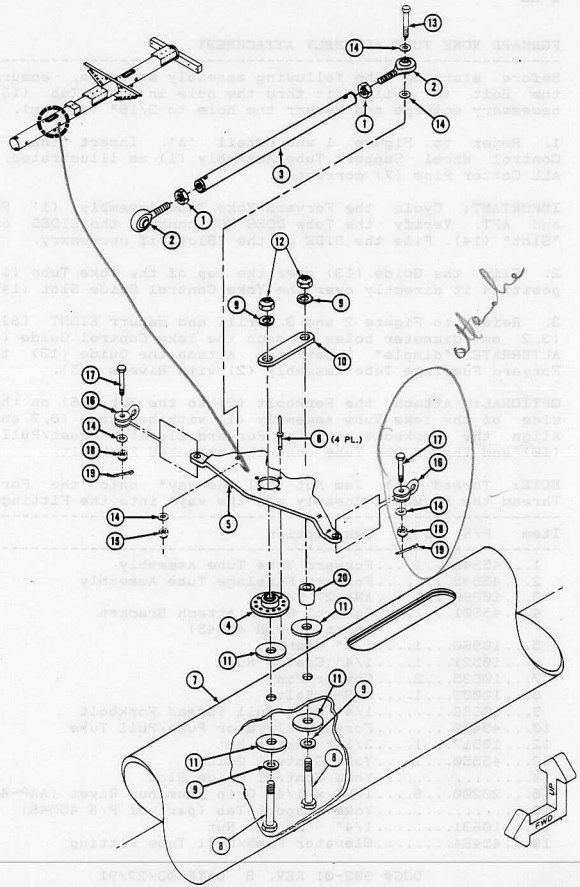
1. Clamp the Bellcrank Bearing (4) to the Bellcrank (5). Use FOUR [4] perimeter holes at 90 degrees to each other in the Bearing and back-drill thru the Bellcrank (5) with a 1/8" (3.2 mm) drill bit. Deburr the holes.

2. Assemble as illustrated. Tighten ALL Locknuts (12) and (15) to proper torque. DO NOT bend the Cotter Pins (19) at this time. (Refer to "Optional" below).

OPTIONAL: Some parts are NOT shown for clarity. You may refer to pages 7-4 and 7-5 at this time if you would like to attach the Forward Rudder Cables (21) (not illustrated on the opposite page) at this time.

Attach the Forward Rudder Pedal Pushrod Assembly (3) as illustrated for the RIGHT side.

Item	P/N	Qty	Description
1	10631	4	1/4" - 28 Jam Nut
2	10700	4	1/4" Male Rod End Bearing
3	45498	2	Forward Rudder Pedal Pushrod Assembly
4	10702	1	Bellcrank Bearing
5	45476	1	Rudder Pedal Bellcrank
6	20201	4	1/8" x 1/4" Grip Stainless Steel Rivet
7	45545		Forward Fuselage Tube Assembly
8	10080	2	AN4-13A Bolt
9	10560	4	1/4" Washer
10	45444	1	Forward Rudder Bracket
11	45095	4	Contour Washer
12	10510	2	1/4" Locknut
13	10020	2	AN3-7A Bolt
14	10550	4	3/16" Washer
15	10500	2	3/16" Locknut
16	20320	2	3/16" Shackle
17	10009	2	AN3-5 Bolt
18	10517	2	3/16" Castle Nut
19	10635	2	Cotter Pin
20	45572		1/2" O.D. x 1/4" I.D. x 5/8" Long Bushing
21	45108	2	Forward Rudder Cable (not illustrated)


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FORWARD YOKE TUBE ASSEMBLY ATTACHMENT

Before starting the following assembly sequence, ensure the the Bolt (8) will fit thru the hole in the Tab (16). If necessary enlarge and deburr the hole to 3/16" (4.8 mm).

1. Refer to Figure 1 and Detail 'A'. Insert the Forward Control Wheel Support Tube Assembly (1) as illustrated. Bend ALL Cotter Pins (7) correctly.

IMPORTANT: Cycle the Forward Yoke Tube Assembly (1) FORWARD and AFT. Verify the Tube DOES NOT contact the SIDES of the "Slot" (14). File the SIDE of the "Slot" if necessary.

2. Slip the Guide (13) over the top of the Yoke Tube (1) and position it directly over the Yoke Control Guide Slot (14).

3. Refer to Figure 2 and 3. Drill and deburr EIGHT [8] 1/8" (3.2 mm) diameter holes through the Yoke Control Guide (13) at ALTERNATE "dimple" locations. Attach the Guide (13) to the Forward Fuselage Tube Assembly (2) with Rivets (15).

OPTIONAL: Attach the Forkbolt (9) to the Tab (16) on the AFT side of the Yoke Tube Assembly (1) with hardware (8,7 and 12). Align the Forkbolt with the Forward Elevator Push/Pull Tube (10) and thread the Tube onto the attached Forkbolt.

NOTE: Thread the Jam Nut "all the way" onto the Forkbolt. Thread the Forkbolt "nearly all the way" into the Fitting (18).

Item	P/N	Qty	Description
1	45548	1	Forward Yoke Tube Assembly
2	45545		Forward Fuselage Tube Assembly
3	10260	1	AN4-27 Bolt
4	45501		Control Stick Attach Bracket (part of P/N 45545)
5	10560	1	1/4" Washer
6	10521	1	1/4" Castle Nut
7	10635	2	Cotter Pin
8	10009	1	AN3-5 Bolt
9	10388		1/4" x 1" Full Thread Forkbolt
10	45438		Forward Elevator Push/Pull Tube
12	10517	1	3/16" Castle Nut
13	45550	1	Yoke Control Guide
14			Yoke Control Guide Slot
15	20200	8	1/8" x 1/4" Grip Aluminum Rivet (AAP-44)
16			Yoke Support Tab (part of P/N 45548)
17	10631		1/4" - 28 Jam Nut
18	45464		Elevator Push/Pull Tube Fitting

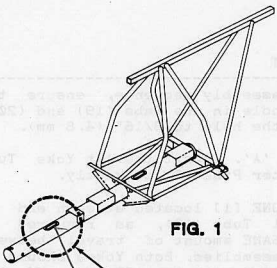
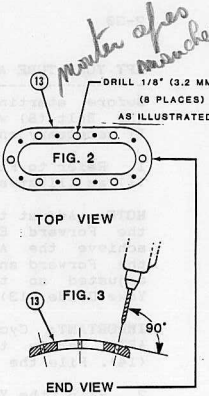
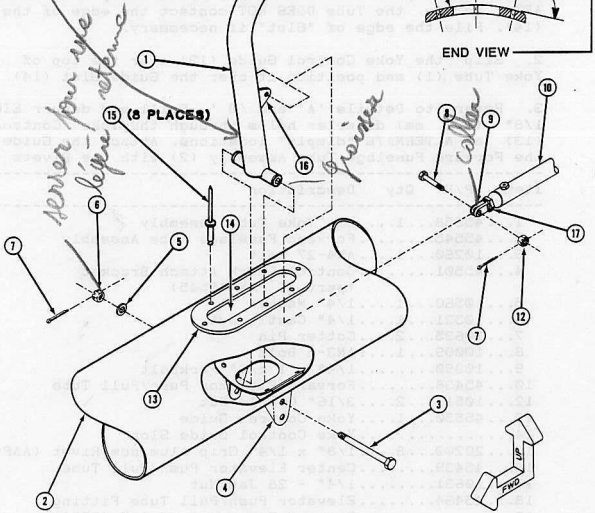


FIG. 1

REFER TO DETAIL 'A'





DETAIL 'A'

AFT YOKE TUBE ASSEMBLY ATTACHMENT

Before starting the following assembly sequence, ensure the the Bolt (8) will fit thru the hole in the Tabs (19) and (20). If necessary enlarge and deburr the hole to 3/16" (4.8 mm).

1. Refer to Figure 1 and Detail 'A'. Insert the Aft Yoke Tube (1) as illustrated. Bend ALL Cotter Pins (7) correctly.

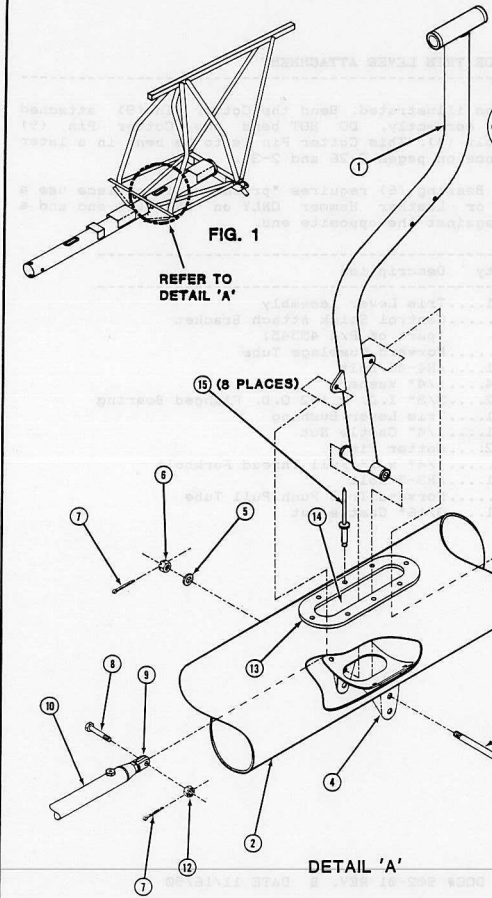
NOTE: Adjust the Forkbolt (9), ONE [1] located at each end of the Forward Elevator Push/Pull Tube (10), as required to achieve the APPROXIMATELY the SAME amount of travel between the Forward and Aft Yoke Tube Assemblies. Both Yokes should be adjusted so they come into contact with the AFT edge of the Yoke Guide (13) when each Yoke is in the AFT position.

IMPORTANT: Cycle the Aft Yoke Tube Assembly (1) FORWARD and AFT. Verify the Tube DOES NOT contact the edge of the "Slot" (14). File the edge of "Slot" if necessary.

2. Slip the Yoke Control Guide (13) over the top of the AfT Yoke Tube (1) and position it over the Guide Slot (14).

3. Refer to Details 'A' and 'B '. Drill and deburr EIGHT [8] 1/8" (3.2 mm) diameter holes through the Yoke Control Guide (13) at ALTERNATE "dimple" locations. Attach the Guide (13) to the Forward Fuselage Tube Assembly (2) with the Rivets (15).

Item	P/N	Qty	Description
1	45558	1	Aft Yoke Tube Assembly
2	45545		Forward Fuselage Tube Assembly
3	10260	1	AN4-27 Bolt
4	45501		Control Stick Attach Bracket (part of P/N 45545)
5	10560	1	1/4" Washer
6	10521	1	1/4" Castle Nut
7	10635	2	Cotter Pin
8	10009	1	AN3-5 Bolt
9	10390		1/4" x 1 1/2" Forkbolt
10	45438		Forward Elevator Push/Pull Tube
12	10517	2	3/16" Castle Nut
13	45550	1	Yoke Control Guide
14			Yoke Control Guide Slot
15	20200	8	1/8" x 1/4" Grip Aluminum Rivet (AAP-44)
16	45439		Center Elevator Push/Pull Tube
17	10631		1/4" - 28 Jam Nut
18	45464		Elevator Push/Pull Tube Fitting
19			Forward Tab (part of P/N 45558)
20			Aft Tab (part of P/N 45558)

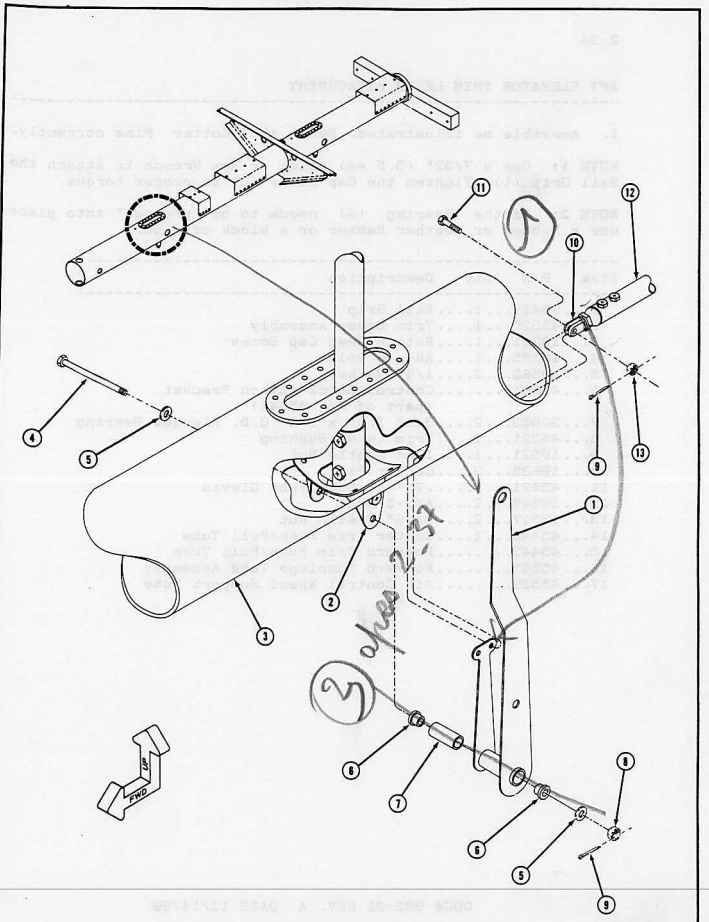

FIG. 1
REFER TO DETAIL 'A'
13
DRILL 1/8" (3.2 MM) (6 PLACES) AS ILLUSTRATED.
FIG. 2
TOP VIEW
FIG. 3
90°
END VIEW
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15 (6 PLACES)
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12
UP
FWD
DETAIL 'A'

FORWARD ELEVATOR TRIM LEVER ATTACHMENT

1. Assemble as illustrated. Bend the Cotter Pin (9) attached to Bolt (11) correctly. DO NOT bend the Cotter Pin (9) attached to Bolt (4). This Cotter Pin is to be bent in a later assembly sequence on pages 2-26 and 2-37.

NOTE: If the Bearing (6) requires "pressing" into place use a Rubber Hammer or Leather Hammer ONLY on ONE [1] end and a block of wood against the opposite end.

Item	P/N	Qty	Description
1.	45525.	1.	Trim Lever Assembly
2.	45501.		Control Stick Attach Bracket (part of P/N 45545)
3.	45545.		Forward Fuselage Tube
4.	10295.	1.	AN4-46 Bolt
5.	10560.	4.	1/4" Washer
6.	30003.	2.	3/8" I.D. x 1/2 O.D. Flanged Bearing
7.	45521.	1.	Trim Lever Bushing
8.	10521.	1.	1/4" Castle Nut
9.	10635.	2.	Cotter Pin
10.	10388.		1/4" x 1" Full Thread Forkbolt
11.	10009.	1.	AN3-5 Bolt
12.	45445.		Forward Trim Push/Pull Tube
13.	10517.	1.	3/16" Castle Nut


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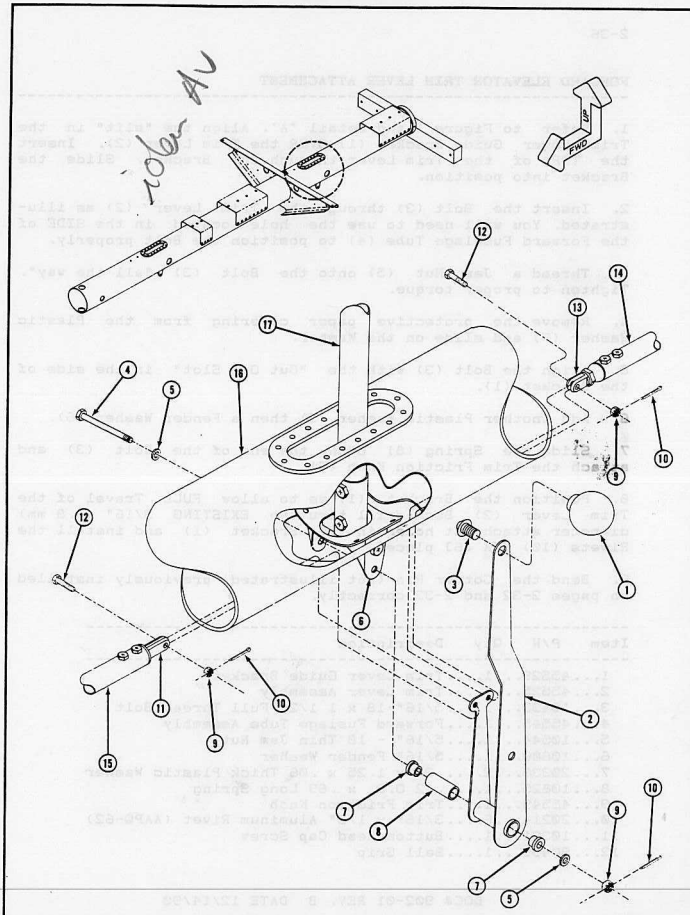
AFT ELEVATOR TRIM LEVER ATTACHMENT

1. Assemble as illustrated. Bend ALL Cotter Pins correctly.

NOTE 1: Use a 7/32" (5.5 mm) Allen or Hex Wrench to attach the Ball Grip (1). Tighten the Cap Screw (3) to proper torque.

NOTE 2: If the Bearing (6) needs to be "pressed" into place use a Rubber or Leather Hammer or a block of wood.

Item	P/N	Qty	Description
1	90499	1	Ball Grip
2	45525	1	Trim Lever Assembly
3	10391	1	Button Head Cap Screw
4	10295	1	AN4-46 Bolt
5	10560	2	1/4" Washer
6	45501		Control Stick Attach Bracket (part of P/N 45545)
7	30003	2	3/8" I.D. x 1/2" O.D. Flanged Bearing
8	45521	1	Trim Lever Bushing
9	10521	1	1/4" Castle Nut
10	10635	3	Cotter Pin
11	45421		.75" x .035" Tube Clevis
12	10009	2	AN3-5 Bolt
13	10517	2	3/16" Castle Nut
14	45446	1	Center Trim Push/Pull Tube
15	45445		Forward Trim Push/Pull Tube
16	45545		Forward Fuselage Tube Assembly
17	45539		Aft Control Wheel Support Tube


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FORWARD ELEVATOR TRIM LEVER ATTACHMENT

1. Refer to Figure 1 and Detail 'A'. Align the "slit" in the Trim Lever Guide Bracket (1) OVER the Trim Lever (2). Insert the TOP of the Trim Lever through the Bracket. Slide the Bracket into position.

2. Insert the Bolt (3) through the Trim Lever (2) as illustrated. You will need to use the hole located in the SIDE of the Forward Fuselage Tube (4) to position the Bolt properly.

3. Thread a Jam Nut (5) onto the Bolt (3) "all the way". Tighten to proper torque.

4. Remove the protective paper covering from the Plastic Washer (7) and slide on the Washer.

5. Align the Bolt (3) with the "Cut Out Slot" in the side of the Bracket (1).

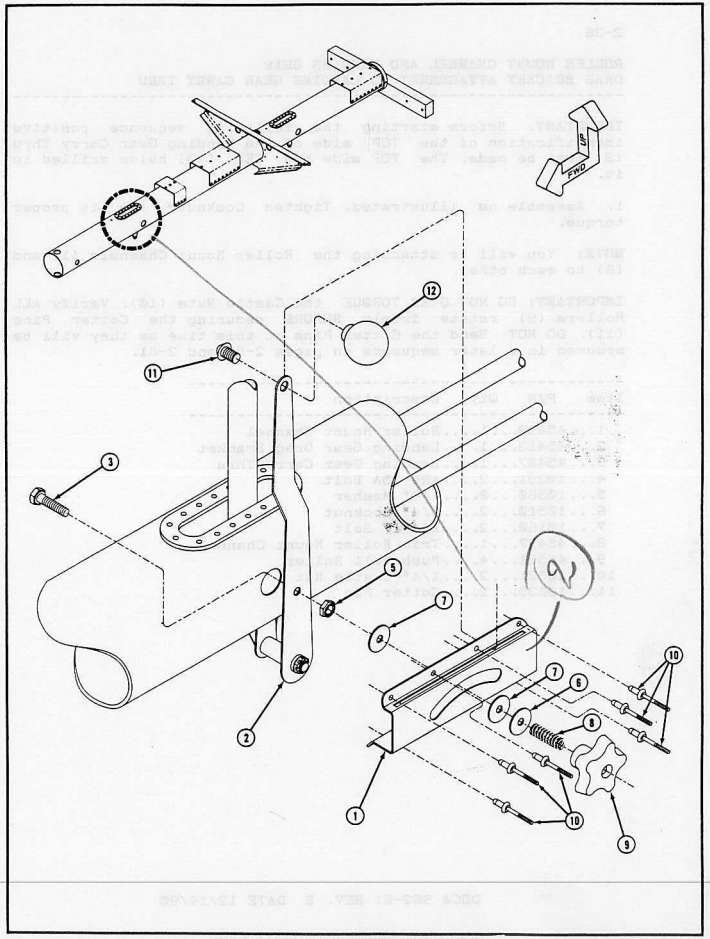
6. Add another Plastic Washer (7) then a Fender Washer (6).

7. Slide the Spring (8) OVER the end of the Bolt (3) and attach the Trim Friction Knob (9).

8. Position the Bracket (1) as to allow FULL Travel of the Trim Lever (2). Back-drill thru the EXISTING 3/16" (4.8 mm) diameter attachment holes in the Bracket (1) and install the Rivets (10) SIX [6] places.

9. Bend the Cotter Pin (not illustrated) previously installed on pages 2-32 and 2-33 correctly.

Item	P/N	Qty	Description
1	45529	1	Trim Lever Guide Bracket
2	45525	1	Trim Lever Assembly
3	10433	1	5/16"-18 x 1 1/2" Full Thread Bolt
4	45545	1	Forward Fuslage Tube Assembly
5	10544	1	5/16" - 18 Thin Jam Nut
6	10600	1	5/16" Fender Washer
7	20338	2	.38 x 1.25 x .06 Thick Plastic Washer
8	10825	1	.42 O.D. x .69 Long Spring
9	45549	1	Trim Friction Knob
10	20214	6	3/16" x 1/8" Aluminum Rivet (AAPQ-62)
11	10391	1	Button Head Cap Screw
12	90499	1	Ball Grip


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ROLLER MOUNT CHANNEL AND LANDING GEAR
DRAG BRACKET ATTACHMENT TO LANDING GEAR CARRY THRU

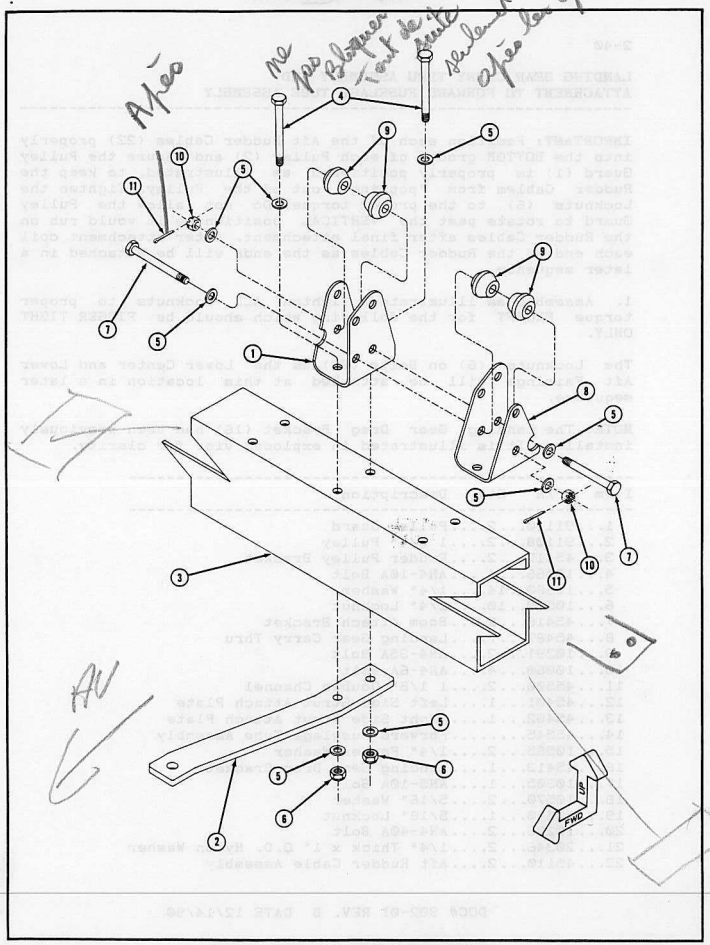
IMPORTANT: Before starting the following sequence positive identification of the TOP side of the Landing Gear Carry Thru (3) must be made. The TOP side has TEN [10] holes drilled in it.

1. Assemble as illustrated. Tighten Locknuts (6) to proper torque.

NOTE: You will be attaching the Roller Mount Channels (1) and (8) to each other.

IMPORTANT: DO NOT OVER TORQUE the Castle Nuts (10). Verify ALL Rollers (9) rotate freely BEFORE securing the Cotter Pins (11). DO NOT Bend the Cotter Pins at this time as they will be secured in a later sequence on pages 2-80 and 2-81.

Item	P/N	Qty	Description
1	45499	1	Roller Mount Channel
2	45413	1	Landing Gear Drag Bracket
3	45487	1	Landing Gear Carry Thru
4	10291	2	AN4-35A Bolt
5	10560	8	1/4" Washer
6	10510	2	1/4" Locknut
7	10160	2	AN4-17 Bolt
8	45497	1	Trim Roller Mount Channel
9	45551	4	Push/Pull Roller
10	10521	2	1/4" Castle Nut
11	10635	2	Cotter Pin


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LANDING GEAR CARRY THRU ASSEMBLY AND ATTACHMENT TO FORWARD FUSELAGE TUBE ASSEMBLY

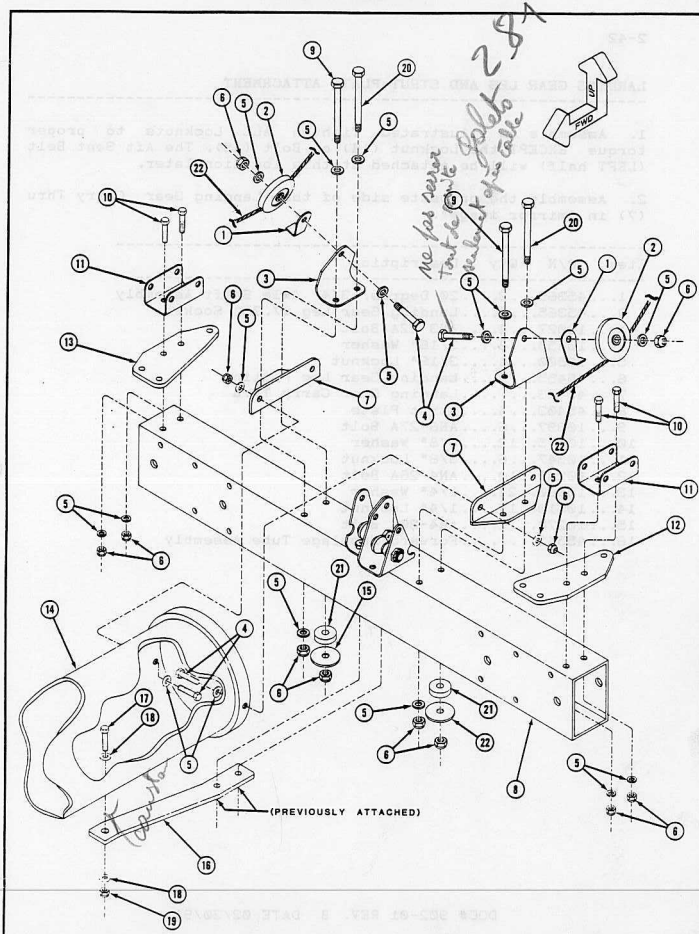
IMPORTANT: Position each of the Aft Rudder Cables (22) properly into the BOTTOM groove of each Pulley (2) and ensure the Pulley Guard (1) is properly positioned, as illustrated, to keep the Rudder Cables from "popping" out of the Pulley. Tighten the Locknuts (6) to the proper torque. Do not allow the Pulley Guard to rotate past the VERTICAL position as it would rub on the Rudder Cables after final attachment. After attachment coil each end of the Rudder Cables as the ends will be attached in a later sequence.

1. Assemble as illustrated. Tighten ALL Locknuts to proper torque EXCEPT for the following which should be FINGER TIGHT ONLY.

The Locknuts (6) on Bolts (20) as the Lower Center and Lower Aft Fairings will be attached at this location in a later sequence.

NOTE: The Landing Gear Drag Bracket (16) has been previously installed. It is illustrated in exploded view for clarity.

Item	P/N	Qty	Description
1	91110	2	Pulley Guard
2	91108	2	1 3/4" Pulley
3	45417	2	Rudder Pulley Bracket
4	10066	4	AN4-10A Bolt
5	10560	14	1/4" Washer
6	10510	10	1/4" Locknut
7	45416	2	Boom Attach Bracket
8	45487		Landing Gear Carry Thru
9	10291	2	AN4-35A Bolt
10	10060	4	AN4-6A Bolt
11	45500	2	1 1/8" Double Channel
12	45401	1	Left Side Strut Attach Plate
13	45402	1	Right Side Strut Attach Plate
14	45545		Forward Fuselage Tube Assembly
15	10565	2	1/4" Fender Washer
16	45413	1	Landing Gear Drag Bracket
17	10305	1	AN5-10A Bolt
18	10570	2	5/16" Washer
19	10540	1	5/16" Locknut
20	10296	2	AN4-40A Bolt
21	20346	2	1/4" Thick x 1" O.D. Nylon Washer
22	45110	2	Aft Rudder Cable Assembly

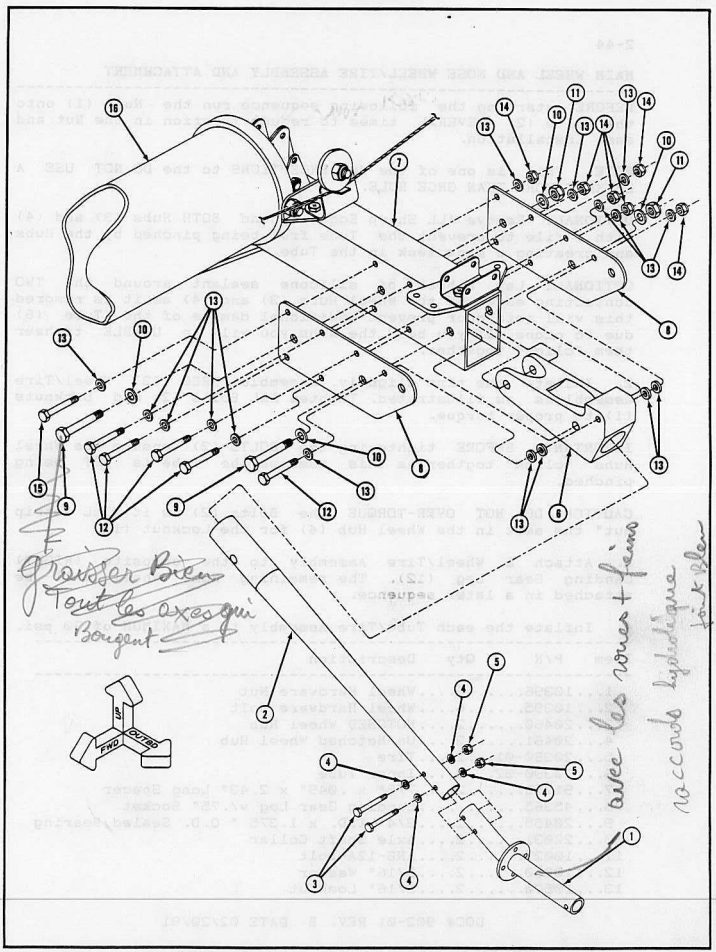

(PREVIOUSLY ATTACHED)

LANDING GEAR LEG AND STRUT PLATE ATTACHMENT

1. Assemble as illustrated. Tighten ALL Locknuts to proper torque EXCEPT the Locknut (14) on Bolt (15). The Aft Seat Belt (LEFT half) will be attached at this location later.

2. Assemble the opposite side of the Landing Gear Carry Thru (7) in "mirror image".

Item	P/N	Qty	Description
1	45369	2	20 Degree, 3/4" Axle Shaft Assembly
2	45365	2	Landing Gear Leg w/.75" Socket
3	10027	4	AN3-12A Bolt
4	10550	8	3/16" Washer
5	10500	4	3/16" Locknut
6	45455	2	Landing Gear Leg Fitting
7	45463		Landing Gear Carry Thru
8	45403	4	Strut Plate
9	10397	6	AN6-27A Bolt
10	10575	12	3/8" Washer
11	10547	6	3/8" Locknut
12	10240	10	AN4-26A Bolt
13	10560	24	1/4" Washer
14	10510	12	1/4" Locknut
15	10270	2	AN4-30A Bolt
16	45545		Forward Fuselage Tube Assembly


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avec les roues + leur
raccords hydrauliques
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MAIN WHEEL AND NOSE WHEEL/TIRE ASSEMBLY AND ATTACHMENT

BEFORE starting the following sequence run the Nuts (1) onto the Bolts (2) SEVERAL times to reduce friction in the Nut and ease installation.

NOTE: This is one of the few EXCEPTIONS to the DO NOT USE A LOCKNUT MORE THAN ONCE RULE.

OPTIONAL: Remove ALL Sharp Edges around BOTH Hubs (3) and (4) with a file to prevent the Tube from being pinched by the Hubs and creating a slow leak in the Tube.

OPTIONAL: Lay a bead of silicone sealant around the TWO contacting edges of the Wheel Hubs (3) and (4) as it is rumored this will retard or prevent additional damage of the Tube (6) due to ozone. If you bead the Hubs you will be UNABLE to hear them "click" together.

2. Inflate the tire slightly. Assemble THREE [3] Wheel/Tire assemblies as illustrated. Tighten ALL Bolts (2) and Locknuts (1) to proper torque.

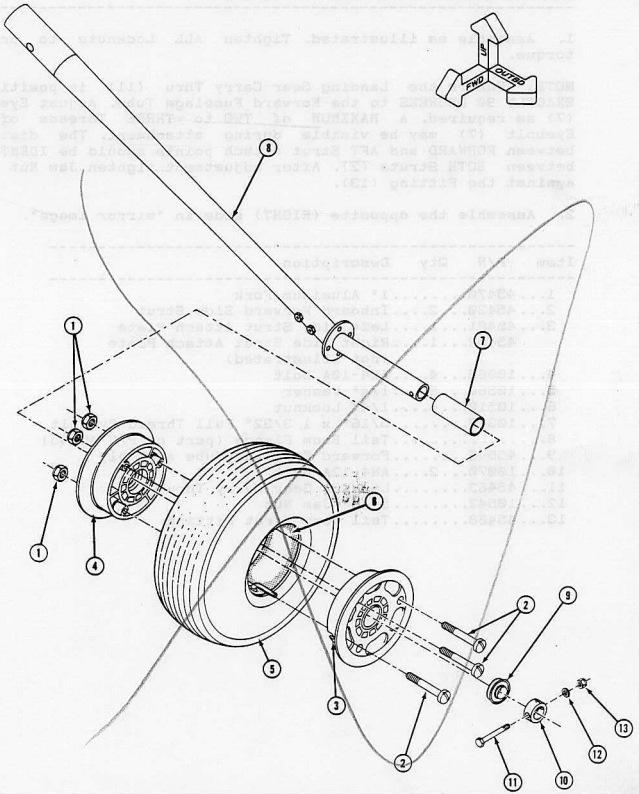
IMPORTANT: BEFORE tightening the BOLTS (2) ensure the Wheel Hubs "click" togther as this assures the Tube is NOT being pinched.

CAUTION: DO NOT OVER-TORQUE the Bolts (2) as it WILL "strip out" the seat in the Wheel Hub (4) for the Locknut (1).

3. Attach a Wheel/Tire Assembly to the opposite (RIGHT) Landing Gear Leg (12). The remaining Nose Wheel will be attached in a later sequence.

4. Inflate the each Tube/Tire Assembly to a MAXIMUM of 30 psi.

Item	P/N	Qty	Description
1	10396	6	Wheel Hardware Nut
2	10395	6	Wheel Hardware Bolt
3	20460	2	NOTCHED Wheel Hub
4	20461	2	Un-Notched Wheel Hub
5	20390-01	2	Tire
6	20390-02	2	Inner Tube
7	91273	2	7/8" x .049" x 2.43" Long Spacer
8	45365		Landing Gear Leg w/.75" Socket
9	20455	2	3/4" I.D. x 1.375 " O.D. Sealed Bearing
10	20031	2	Axle Shaft Collar
11	10027	2	AN3-12A Bolt
12	10550	2	3/16" Washer
13	10500	2	3/16" Locknut


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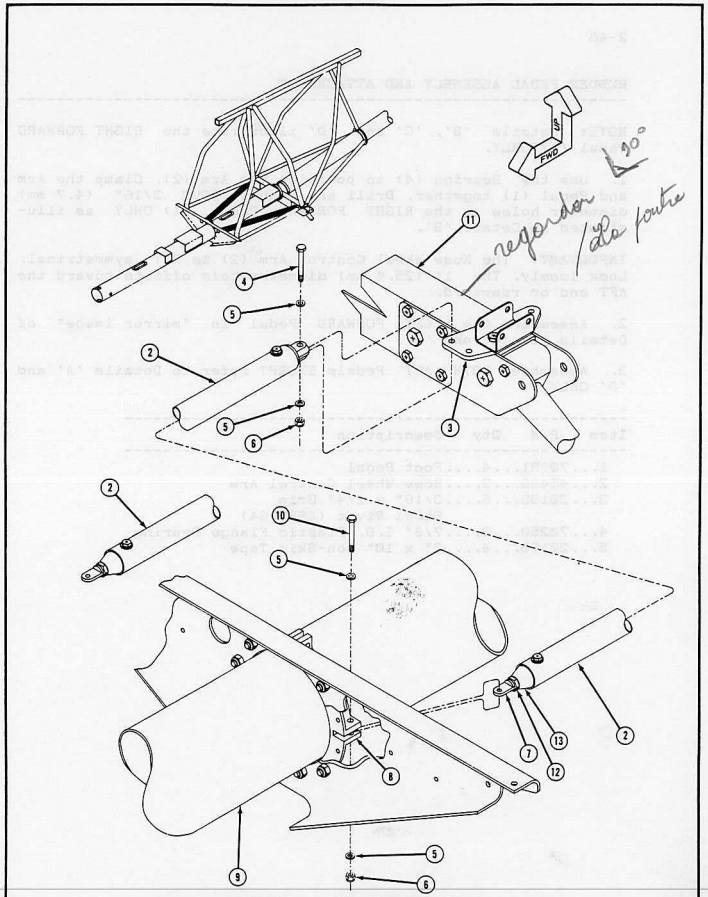
INBOARD FORWARD SIDE STRUT ATTACHMENT

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

NOTE: Ensure the Landing Gear Carry Thru (11) is positioned EXACTLY 90 DEGREES to the Forward Fuselage Tube. Adjust Eyebolt (7) as required. A MAXIMUM of TWO to THREE Threads of the Eyebolt (7) may be visible during attachment. The distance between FORWARD and AFT Strut attach points should be IDENTICAL between BOTH Struts (2). After adjustment tighten Jam Nut (12) against the Fitting (13).

2. Assemble the opposite (RIGHT) side in "mirror image".

Item	P/N	Qty	Description
1	45470		1" Aluminum Fork
2	45430	2	Inboard Forward Side Strut
3	45401	1	Left Side Strut Attach Plate
	45402	1	Right Side Strut Attach Plate (not illustrated)
4	10066	4	AN4-10A Bolt
5	10560	8	1/4" Washer
6	10510	4	1/4" Locknut
7	10377		5/16" x 1 3/32" Full Thread Eyebolt
8			Tail Boom Flange (part of P/N 45545)
9	45545		Forward Fuselage Tube Assembly
10	10070	2	AN4-12A Bolt
11	45463		Landing Gear Carry Thru
12	10542		5/16" Jam Nut
13	45468		Tail Boom Strut Fitting


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RUDDER PEDAL ASSEMBLY AND ATTACHMENT

NOTE: Details 'B', 'C' and 'D' illustrate the RIGHT FORWARD Pedal (1) ONLY.

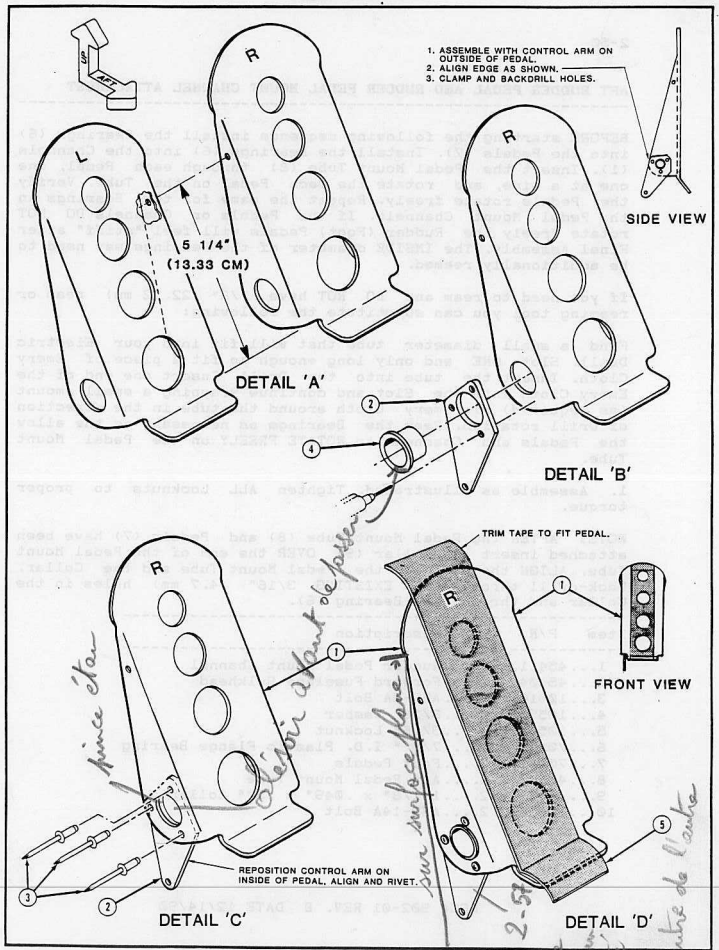
1. Use the Bearing (4) to position the Arm (2). Clamp the Arm and Pedal (1) together. Drill and deburr FOUR 3/16" (4.7 mm) diameter holes in the RIGHT FORWARD Pedal (1) ONLY as illustrated in Detail 'B'.

IMPORTANT: The Nose Wheel Control Arm (2) is NOT symmetrical. Look losely. The 1" (25.4 mm) diameter hole offsets toward the AFT end or rearward.

2. Assemble the LEFT FORWARD Pedal in "mirror image" of Details 'B','C' and 'D'.

3. Assemble BOTH AFT Pedals EXCEPT refer to Details 'A' and 'D' ONLY.

Item	P/N	Qty	Description
1	70231	4	Foot Pedal
2	45486	2	Nose Wheel Control Arm
3	20193	6	3/16" x 1/4" Grip Steel Rivet (BSPQ-64)
4	70250	2	7/8" I.D. Plastic Flange Bearing
5	20190	4	2" x 10" Non-Skid Tape


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5 1/4"
(13.33 CM)
DETAIL 'A'
1. ASSEMBLE WITH CONTROL ARM ON OUTSIDE OF PEDAL.
2. ALIGN EDGE AS SHOWN.
3. CLAMP AND BACKDRILL HOLES.
SIDE VIEW
R
2
4
DETAIL 'B'
TRIM TAPE TO FIT PEDAL.
R
1
FRONT VIEW
R
1
REPOSITION CONTROL ARM ON INSIDE OF PEDAL, ALIGN AND RIVET.
3
2
DETAIL 'C'
5
DETAIL 'D'

AFT RUDDER PEDAL AND RUDDER PEDAL MOUNT CHANNEL ATTACHMENT

BEFORE starting the following sequence install the Bearings (6) into the Pedals (7). Install the Bearings (6) into the Channels (1). Insert the Pedal Mount Tube (8) through each Pedal, one one at a time, and rotate the each Pedal on the Tube. Verify the Pedals rotate freely. Repeat the same for the Bearings in the Pedal Mount Channels. If the Pedals or Channels DO NOT rotate freely the Rudder (Foot) Pedals will feel "stiff" after Final Assembly. The INSIDE diameter of the Bearings may need to be additionally reamed.

If you need to ream and DO NOT have 7/8" (22.22 mm) ream or reaming tool you can substitute the following:

Find a small diameter tube that will fit into your Electric Drill. Slot ONE end only long enough to fit a piece of Emery Cloth. Insert the tube into the Drill. Insert one end of the Emery Cloth into the Slot and continue wrapping a small amount (as required) of Emery Cloth around the tube in the direction of Drill rotation. Ream the Bearings as necessary as the allow the Pedals and Channels to ROTATE FREELY on the Pedal Mount Tube.

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

NOTE: AFTER the Pedal Mount Tube (8) and Pedals (7) have been attached insert the Collar (9) OVER the end of the Pedal Mount Tube. ALIGN the holes in the Pedal Mount Tube and the Collar. Back-drill through the EXISTING 3/16" (4.7 mm) holes in the Collar and through the Bearing (6).

Item	P/N	Qty	Description
1	45411	2	Rudder Pedal Mount Channel
2	45404	.....	Forward Fuselage Bulkhead
3	10010	8	AN3-5A Bolt
4	10550	16	3/16" Washer
5	10500	8	3/16" Locknut
6	70250	8	7/8 " I.D. Plastic Flange Bearing
7	70231	2	Foot Pedals
8	45432	1	Aft Pedal Mount Tube
9	45478	2	1 1/8" x .049" x .50" Collar
10	10035	2	AN3-14A Bolt