

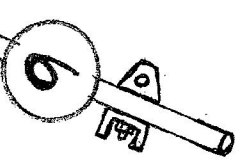
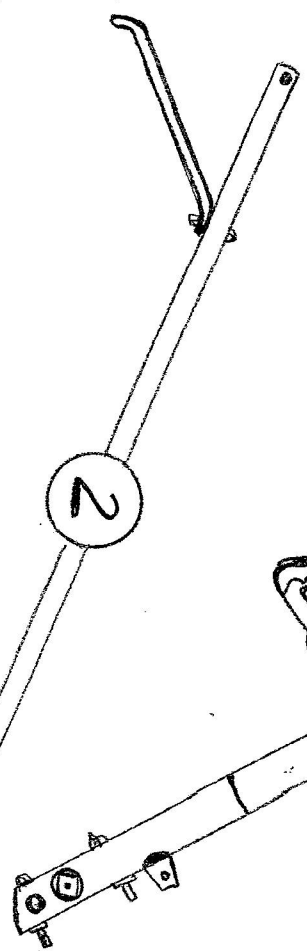
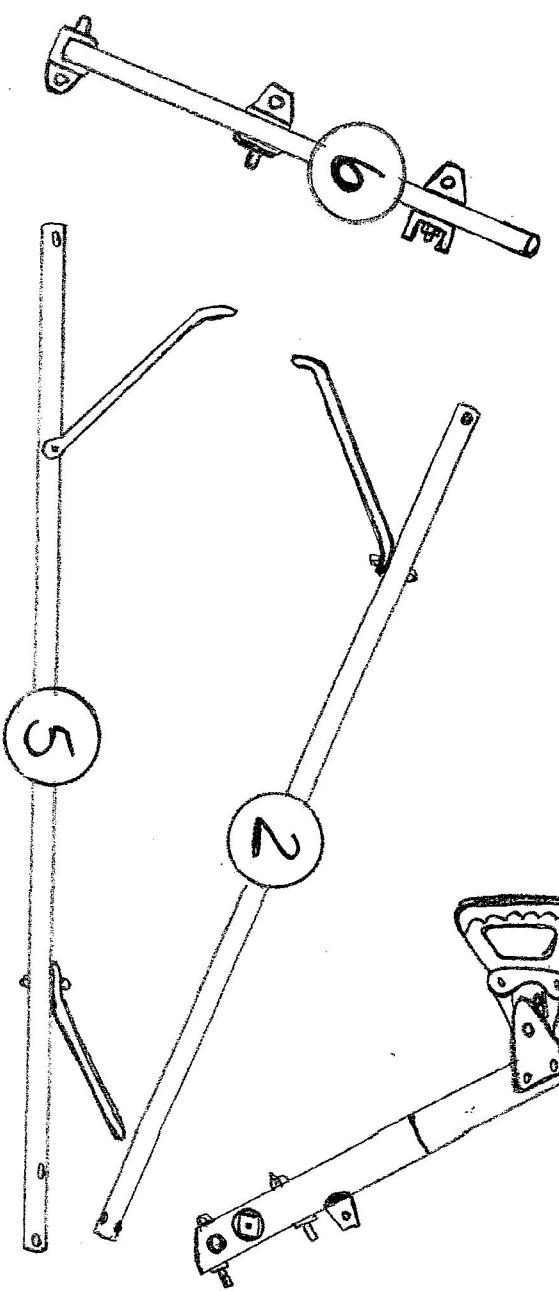
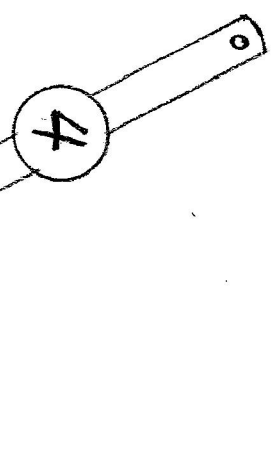
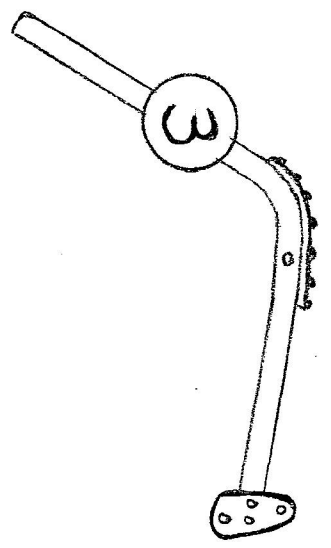
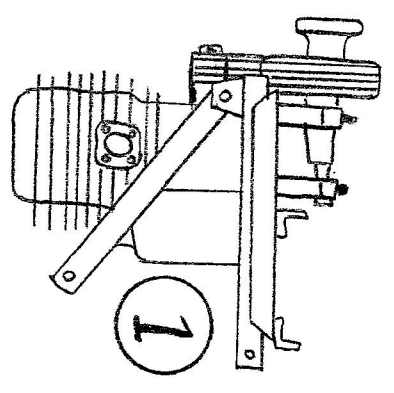
KASPERWING MOTORGLIDER

A/B CONVERSION ASSEMBLY MANUAL

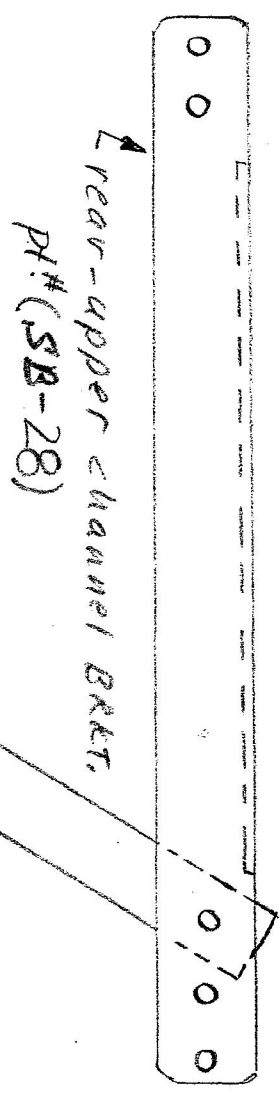
COPYRIGHT 1982 BY S. GROSSRUCK

STEP # 1. BEGIN CONVERSION BY DISCONNECTING THROTTLE AND CHOKE CABLES, FUEL LINES, ELECTRICAL WIRES AND ALL OTHER MISC. PARTS OR CONNECTIONS TO ENGINE. REMOVE FUEL TANK AND LAUDAUF GEAR AND BREAK UNDERCARRIAGE DOWN INTO SIX SUB-ASSEMBLIES, REMOVE ALL BOLTS AND BRACKETS FROM LOWER REAR FRAME ASS'Y. AND CHECK REAR FRAME TUBES FOR DAMAGE AND STRAIGHTNESS. REPLACE IF EXCESSIVELY WORN OR BENT, DIS-ASSEMBLE IN SEQUENCE SHOWN.

1. ENGINE GROUP
2. SIDE FRAME ASS'Y.
3. UPPER REAR FRAME ASS'Y.
4. MAIN STRUT AND CONTROLS
5. LOWER FRAME TUBE ASS'Y.
6. LOWER-REAR FRAME ASS'Y.



STEP # 2 START RE-CONSTRUCTING LOWER-REAR FRAME ASSEMBLY BY ATTACHING CHANNEL BRACKETS AND REAR-FRAME DIAGONAL BRACE TOGETHER AS SHOWN.

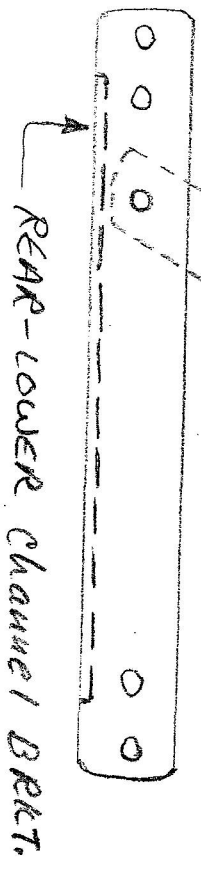


"REAR VIEW"

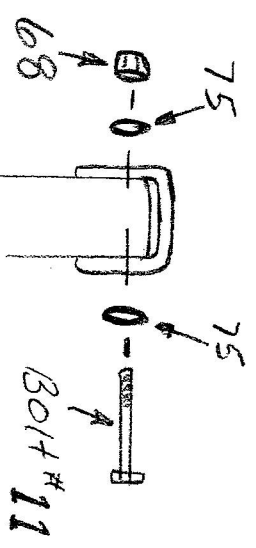
REPLACE WORN FIBRE-LOCK NUTS WITH NEW NUTS # 68

→ Pt.# (TB-22)

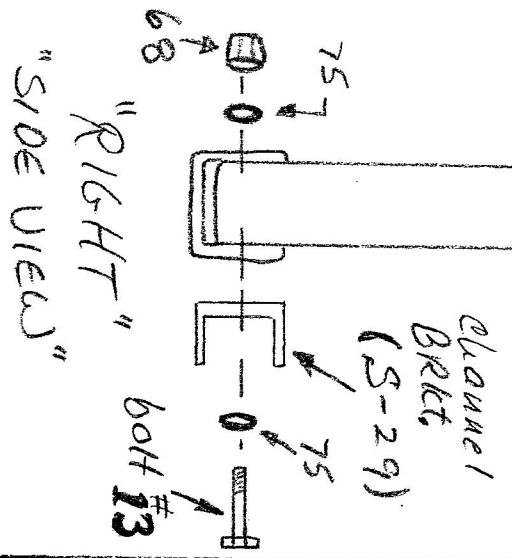
REAR FRAME DIAGONAL



Pt.# (SB-27)



Fwd. →



Bolt # 13

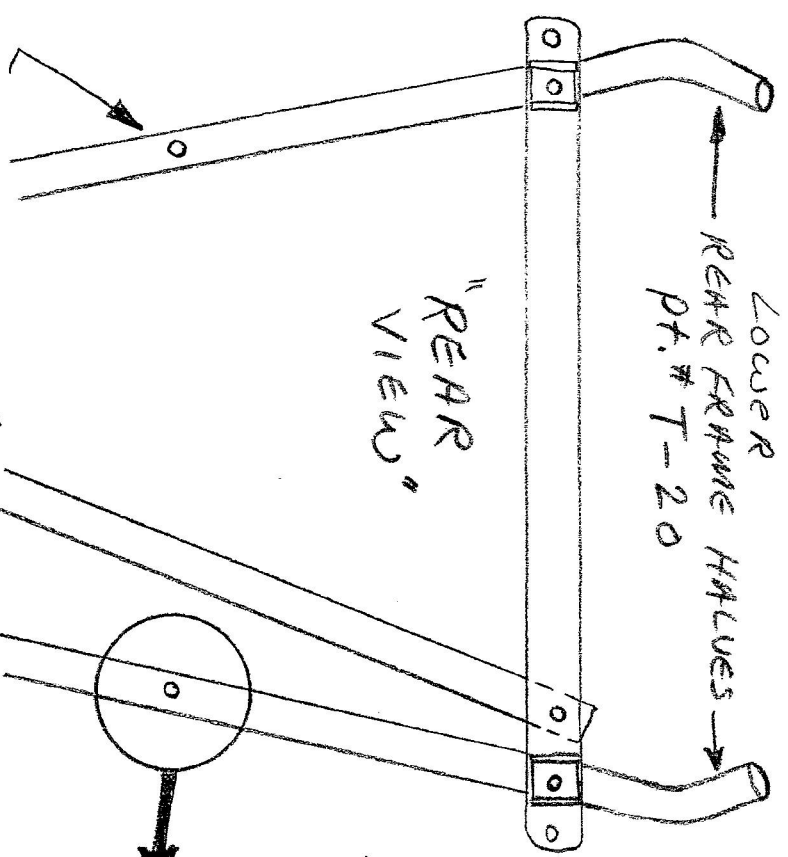
Channel Brkt (S-29)

"RIGHT" "SIDE VIEW"

REPLACE WORN FIGURE-LOCKAUTS WITH NEW NUTS #68

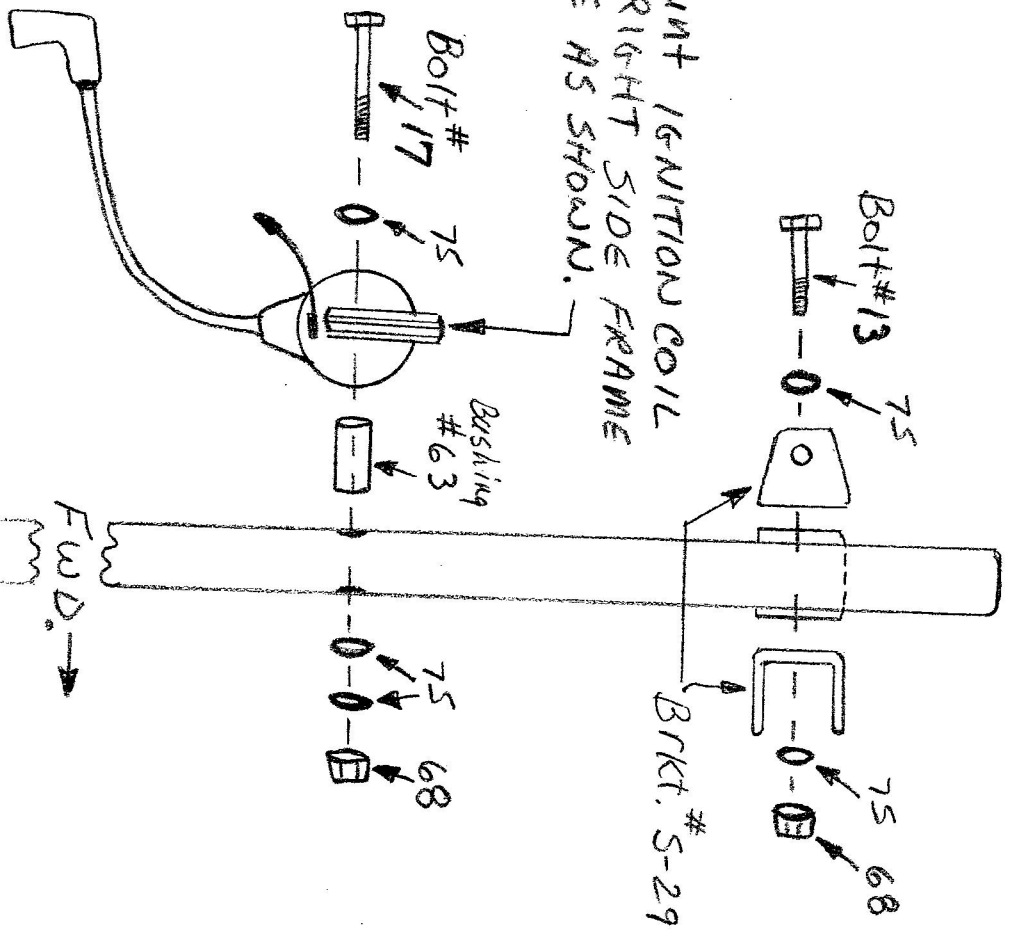
LOWER
REAR FRAME HALVES
PT. # T-20

"REAR
VIEW"



RE-INSTALL BOLT #11, THREE #75 WASHERS
AND ONE #68 NUT IN LEFT FRAME TUBE.

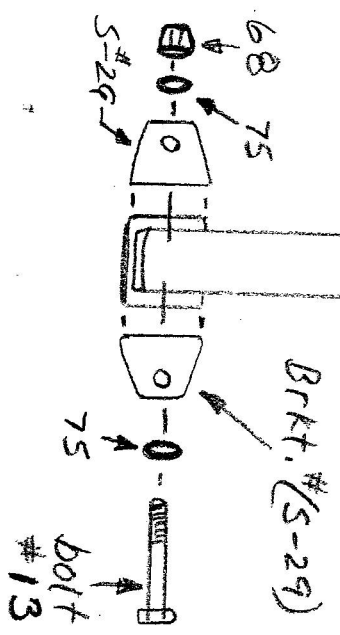
MOUNT IGNITION COIL
ON RIGHT SIDE FRAME
TUBE AS SHOWN.



STEP #

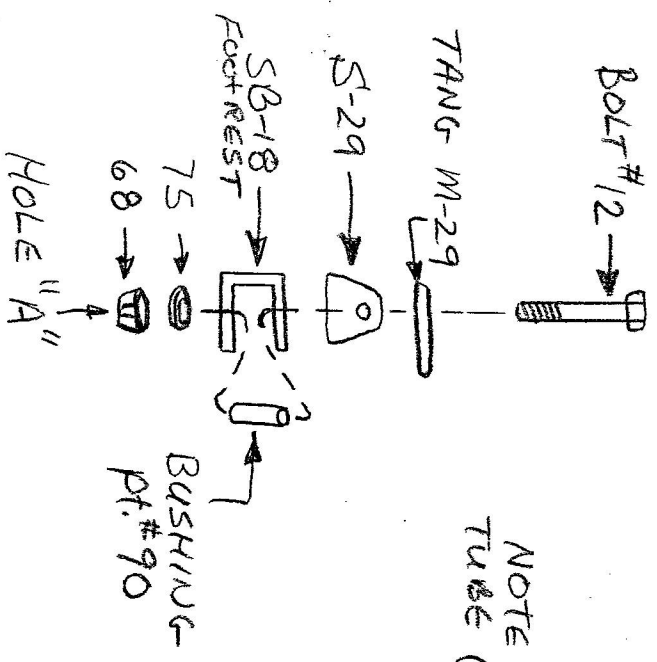


3. PLACE LOWER REAR FRAME HALVES IN
POSITION AND SECURE WITH PROPER BOLTS,
NUTS, AND CHANNEL BRKTS. AS SHOWN.

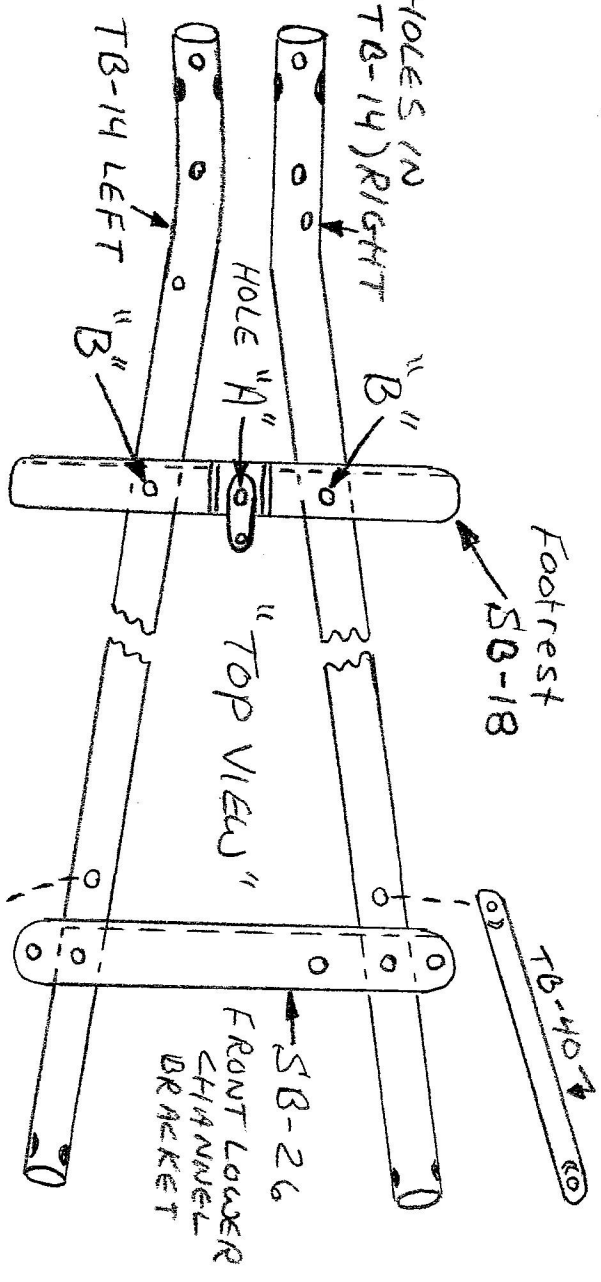


STEP # ATTACH HARDWARE TO HOLE "A" IN FOOTREST BRACKET SB-18 AS SHOWN.

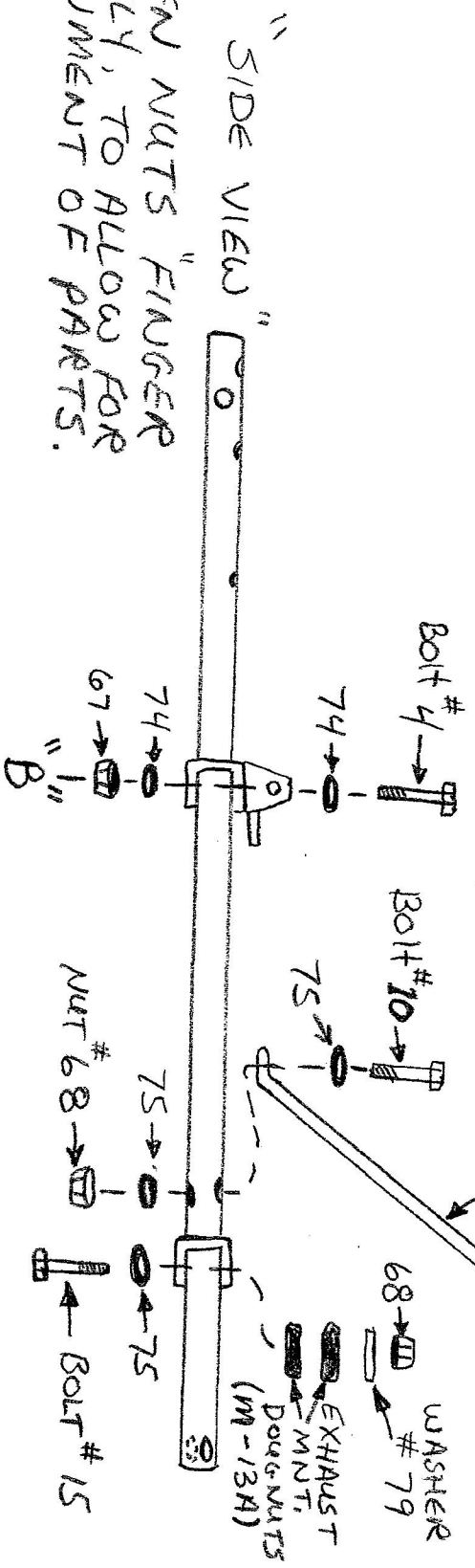
4. SLIDE FOOTREST AND FRONT LOWER CHANNEL BRACKETS INTO POSITION ON NEW "B"-MODEL LOWER FRAME TUBES (TB-14 R/L). SECURE WITH PROPER BOLTS, NUTS AND HARDWARE. BE SURE THE OPEN END OF CHANNEL BRACKETS FACES TOWARD THE REAR.



NOTE HOLES IN TUBE (TB-14) RIGHT



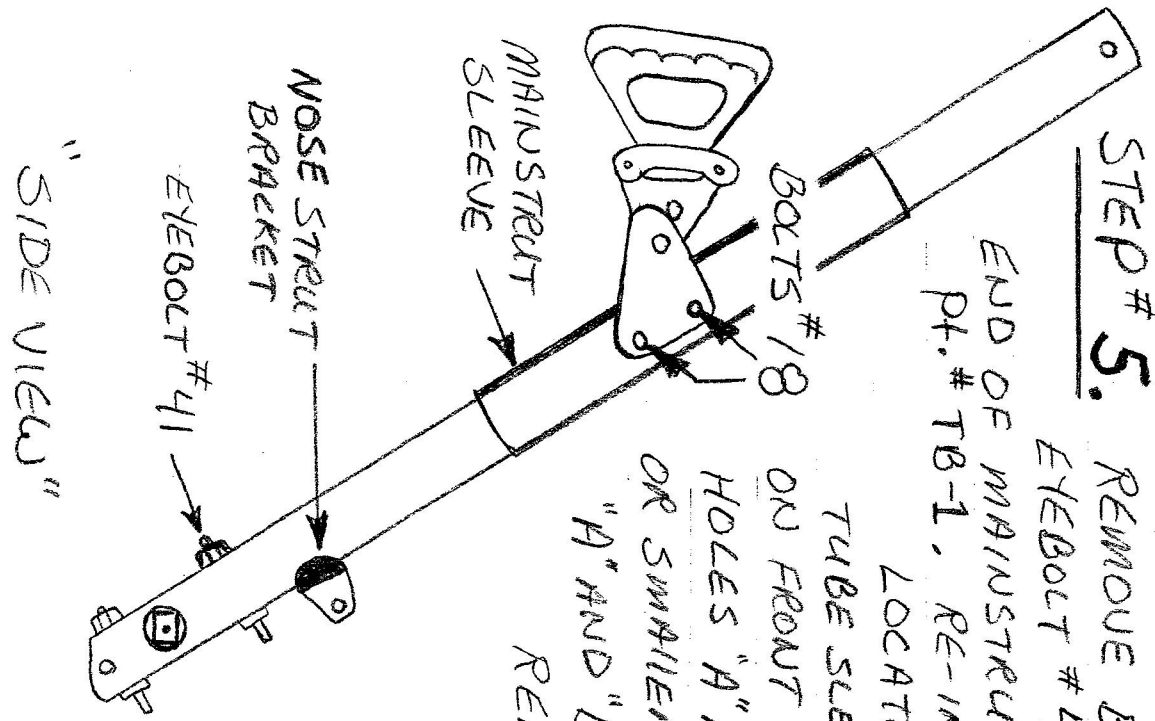
REAR FRAME STRUTS TB-40



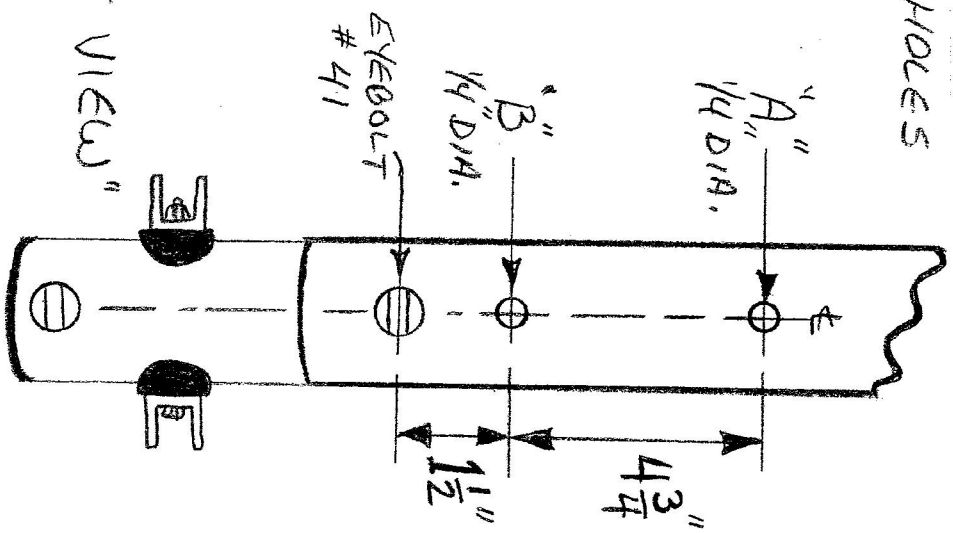
STEP # 5.

REMOVE BOLTS # 18, NOSE STRUT BRACKET AND UPPER EYEBOLT # 41. SLIDE MAINSTRUT SLEEVE UPWARD, OFF END OF MAINSTRUT AND REPLACE WITH NEW LONGER SLEEVE, OFF Pt. # TB-1, RE-INSTALL EYEBOLT # 41.

LOCATE HOLES "A" AND "B" IN BOTTOM OF MAINSTRUT TUBE SLEEVE. CAREFULLY PLACE A CENTER PUNCH MARK ON FRONT AND BACK SIDES OF MAINSTRUT IN CENTER OF HOLES "A" AND "B". STARTING WITH AN $\frac{1}{8}$ " DIA. OR SMALLER PILOT DRILL, DRILL OUT HOLES "A" AND "B" TO $\frac{1}{4}$ " DIA. AND REMOVE ANY BURRS.

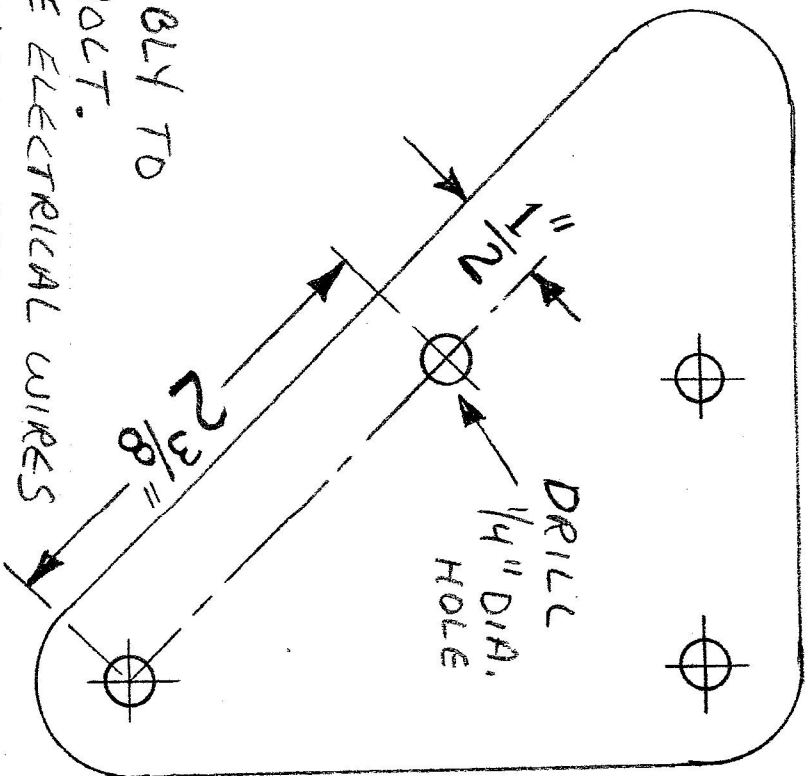
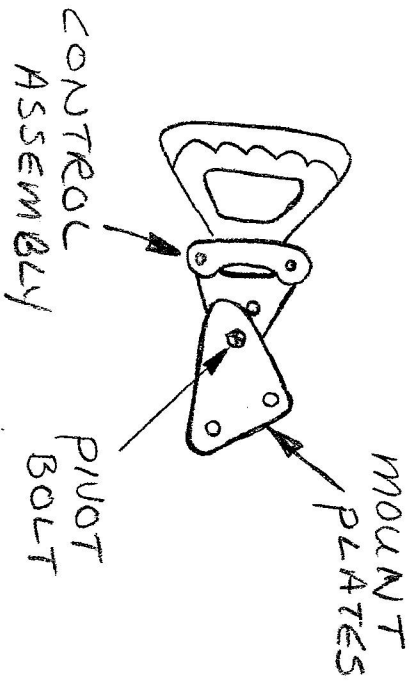


"SIDE VIEW"



"FRONT VIEW"

STEP # 6. SEPARATE CONTROL ASSEMBLY FROM MOUNT PLATES BY REMOVING PIVOT BOLT. LAY OUT AND DRILL $\frac{1}{4}$ " DIA. HOLES IN MOUNT PLATES AS SHOWN.



Fwd. \rightarrow

RE-ATTACH CONTROL ASSEMBLY TO MOUNT PLATES WITH PIVOT BOLT. BE CAREFUL NOT TO DAMAGE ELECTRICAL WIRES INSIDE CONTROL ASSEMBLY WHEN REINSERTING PIVOT BOLT. RE-INSTALL CONTROL ASSEMBLY ON MANIFEST AND TIGHTEN ALL MOUNT BOLTS SECURELY.

STEP # 7.

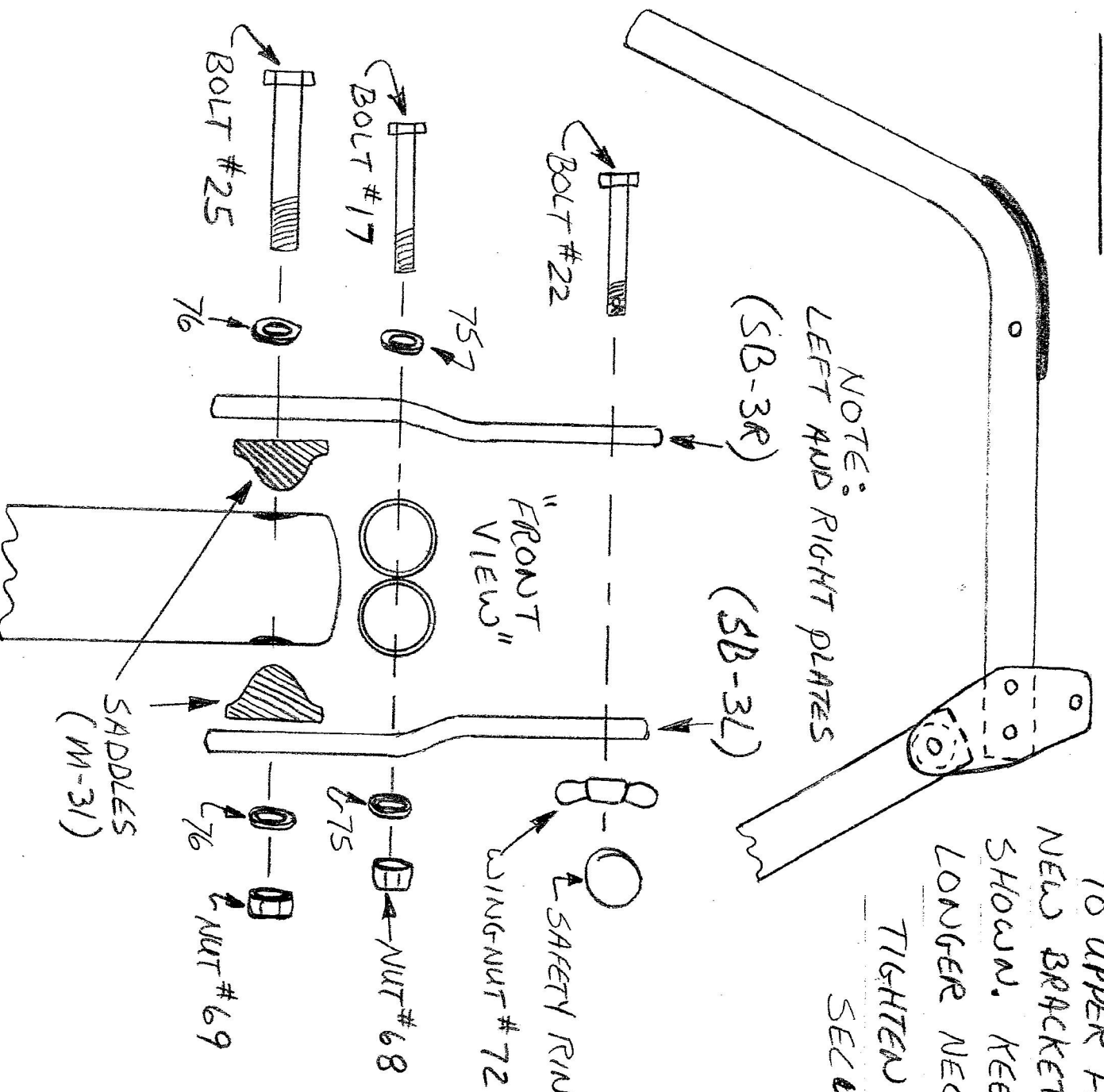
NOTE:
LEFT AND RIGHT PLATES

(SB-3R)

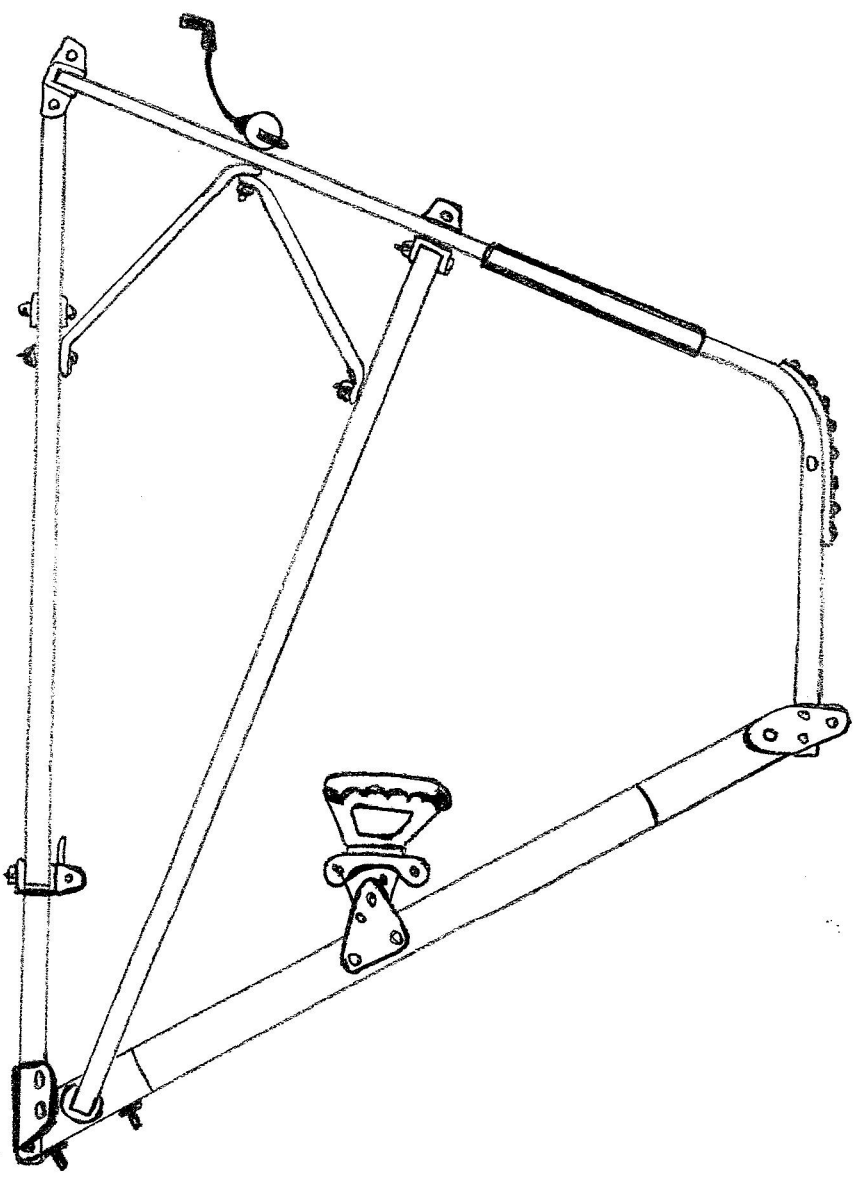
(SB-3L)

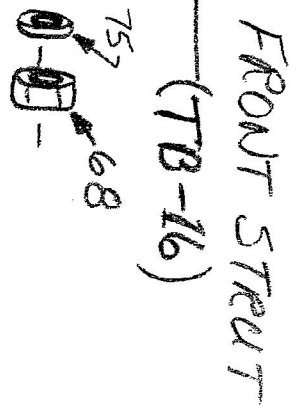
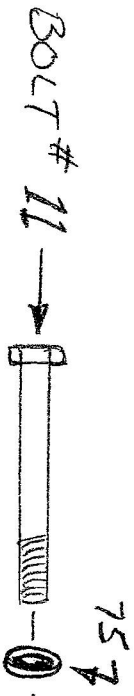
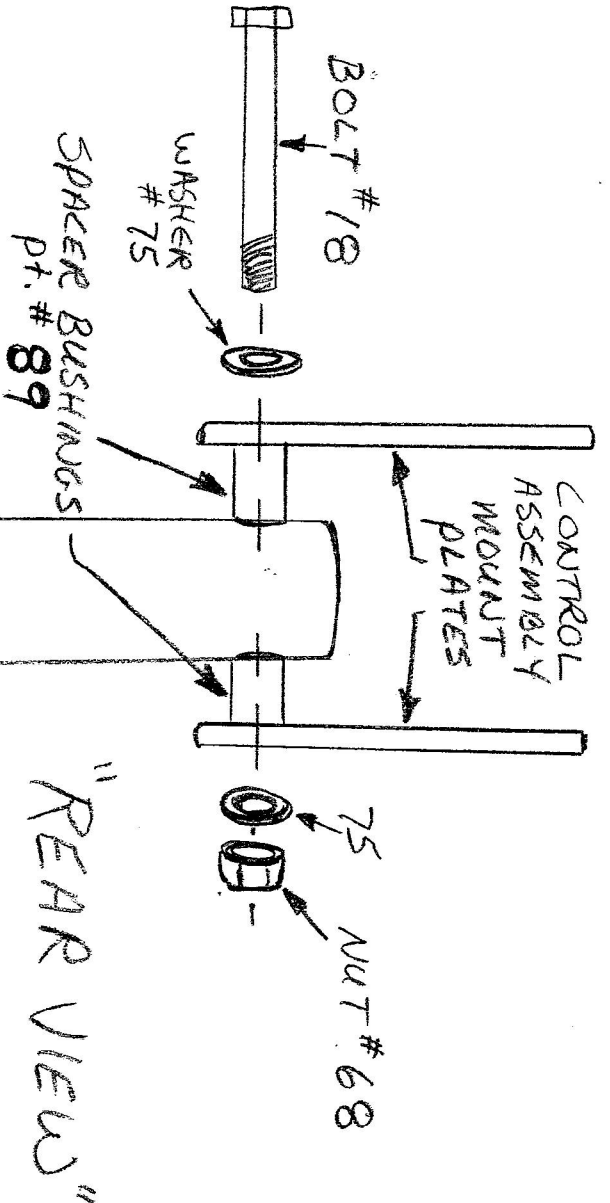
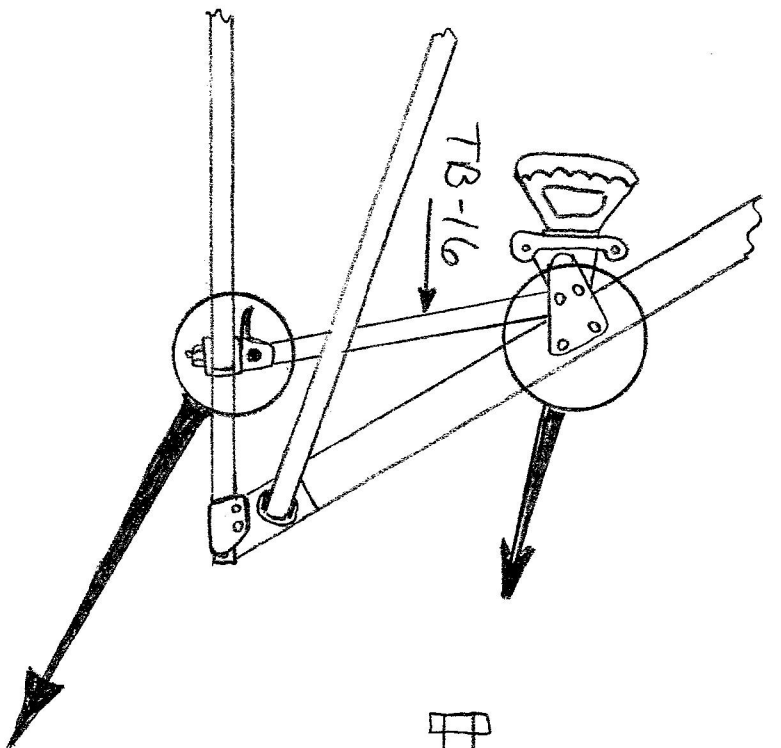
RE-ATTACH TOP OF MAINSTRAUT TUBE
TO UPPER FRAME ASSEMBLY WITH
NEW BRACKETS (SB-3R+L) AS
SHOWN. KEEL BLOCK IS NO
LONGER NECESSARY.

TIGHTEN BOLTS # 17 AND # 25
SECURELY!



STEP # 8. RE-ASSEMBLE ALL MAJOR UNDERCARRIAGE COMPONENTS
AS SHOWN. REPLACE ALL WORN LOCK-NUTS WITH
NEW FIBRE-LOCK NUTS AS NECESSARY. TIGHTEN SECURELY!

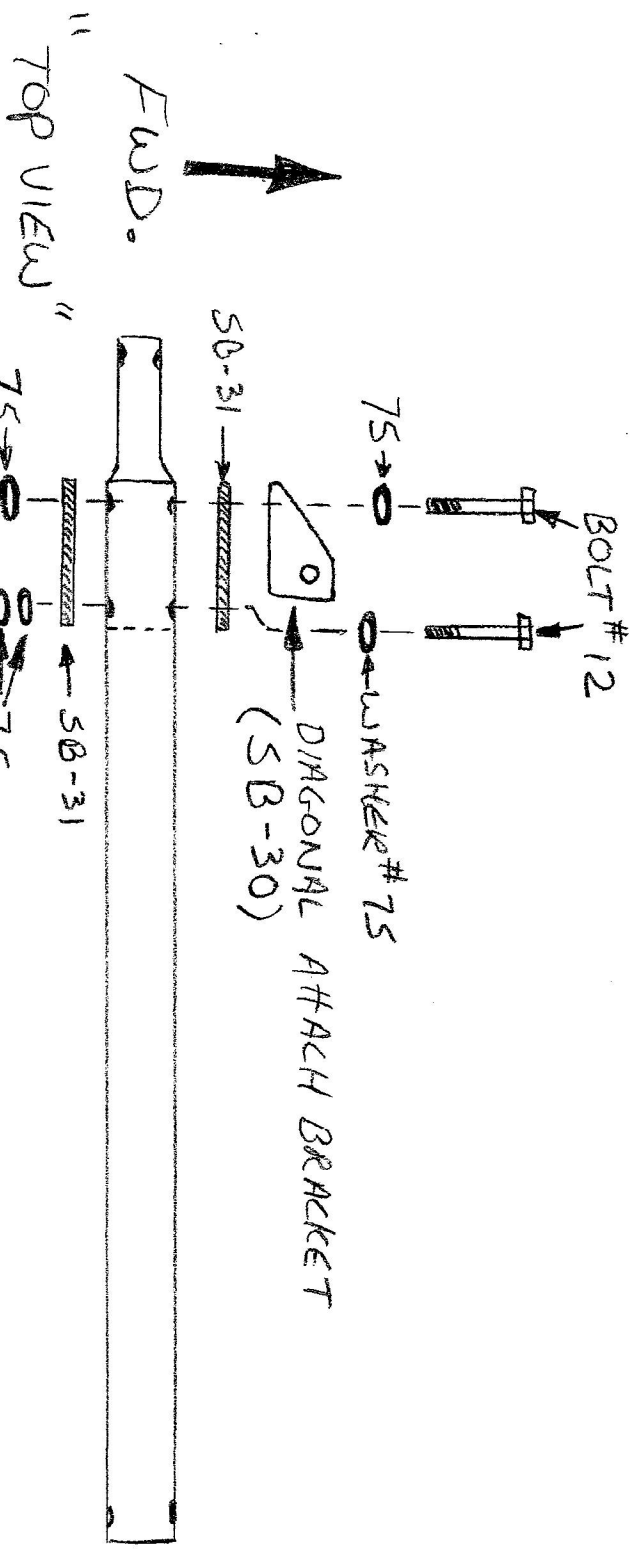
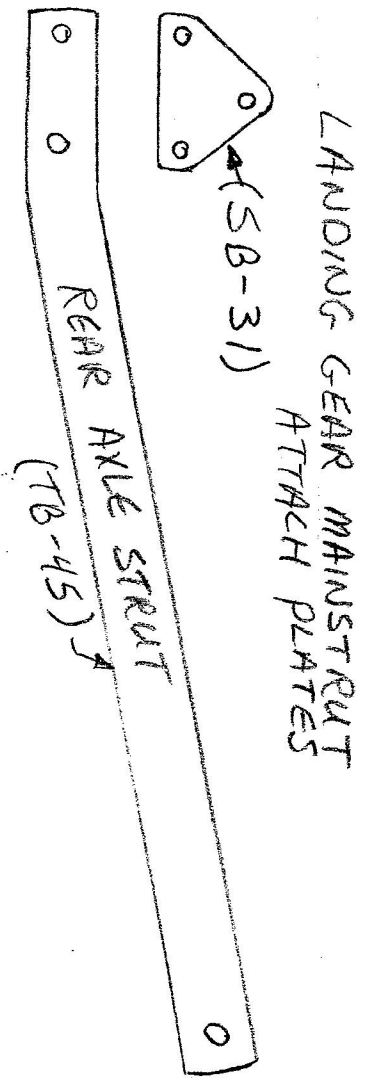
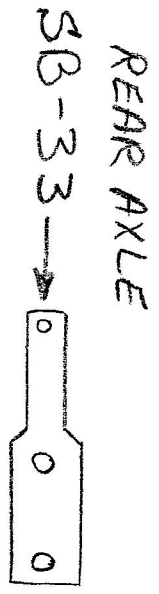




STEP # 9.

ATTACH B-MODEL FRONT FRAME STRUT TO UNDERCARRIAGE WITH BOLTS, NUTS, WASHERS AND SPACER BUSHINGS AS SHOWN. TIGHTEN SECURELY!

"SIDE VIEW"



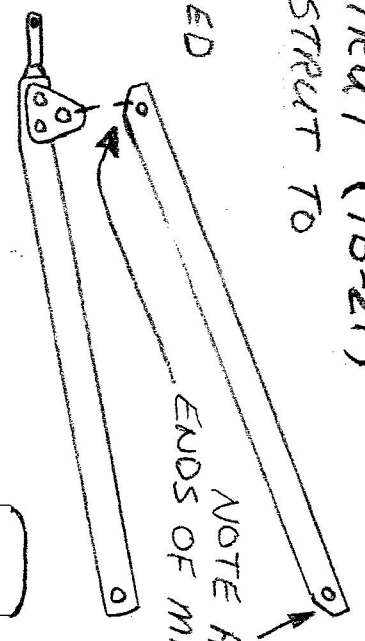
STEP # 10.

INSERT REAR AXLES INTO AXLE STRUTS AND ATTACH PLATES AND BRACKETS AS SHOWN. THIS DRAWING SHOWS LEFT SIDE REAR AXLE ASSEMBLY. MAKE ONE LEFT SIDE ASSEMBLY AND ONE RIGHT!

STEP # 11. ATTACH LANDING GEAR MAINSTRAUT (TB-21) AND LANDING GEAR DIAGONAL STRUT TO

REAR AXLE ASSEMBLY AS SHOWN.

NOTE DIRECTION OF BEND IN UNDRILLED END OF DIAGONAL STRUT. THIS END WILL BE DRILLED WHEN LANDING GEAR ASSEMBLY IS MOUNTED ON FRAME.



LANDING GEAR DIAGONAL STRUT

Pt.# (TB-46)

NOTE BEND

LANDING GEAR MAINSTRAUT

Pt.# (TB-21)

BOLT # 11

11

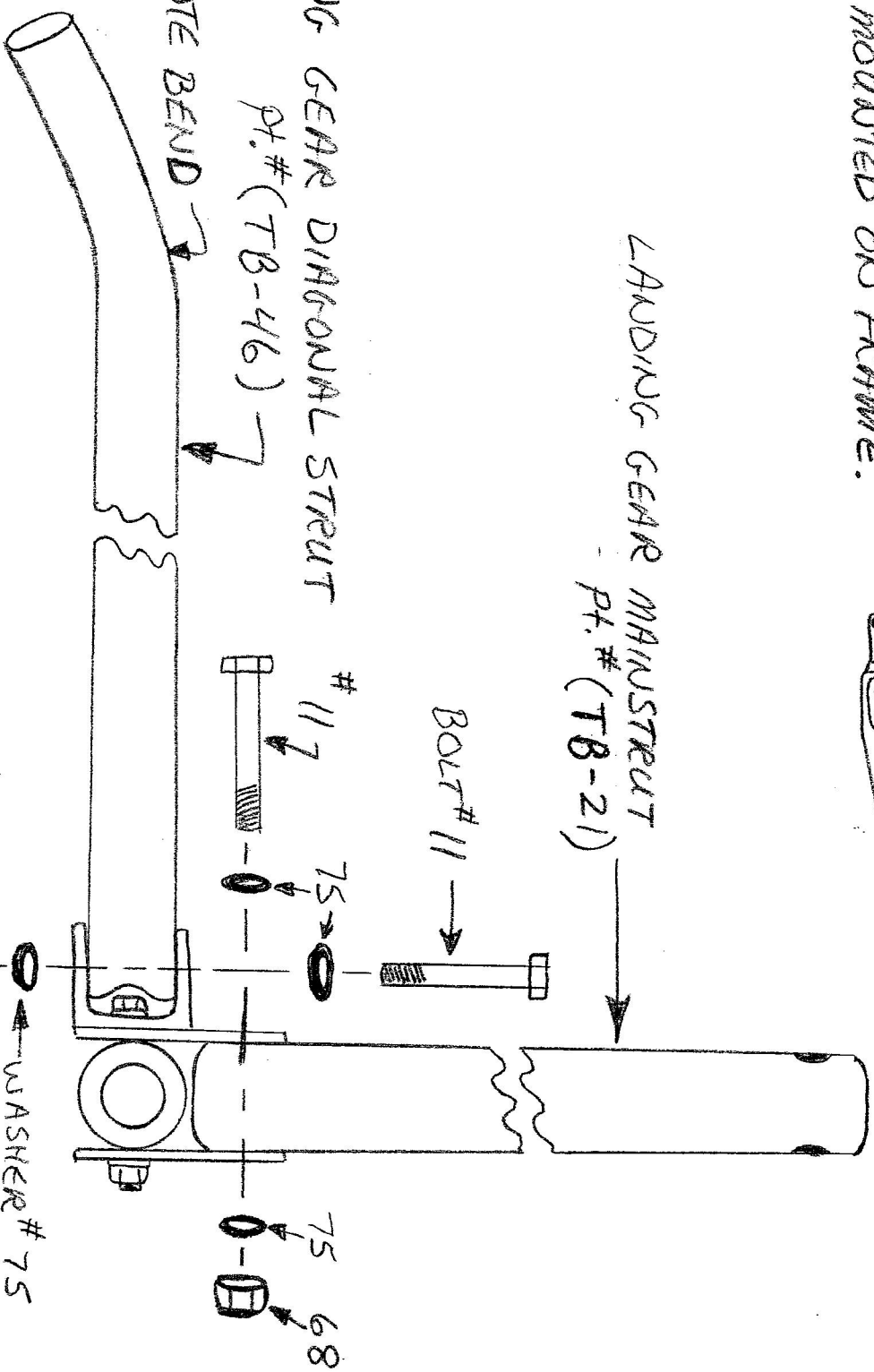
75

75 68

→ Fwd.

WASHER # 75
NUT # 68

LEFT SIDE L.G. ASSEMBLY



STEP # 12.

ATTACH LANDING GEAR ASSEMBLY TO UNDERCARRIAGE FRAME AT POINTS

"A", "B" AND "C" WITH BOLTS, WINGNUTS AND SAFETY RINGS AS SHOWN. TIGHTEN WINGNUTS ONLY "FINGER TIGHT".

PLACE A PENCIL MARK $\frac{1}{2}$ " FROM END OF

TUBE ON TOP AND BOTTOM OF DIAGONAL STRUT.

PLACE STRUT END IN BRACKET AND CLAMP

OR HOLD IN POSITION FOR MARKING.

BE SURE STRUT END AND PENCIL MARKS

ARE CENTERED UNDER HOLES IN BRACKET END. MARK AND

CENTER PUNCH TOP AND BOTTOM OF STRUT END FOR

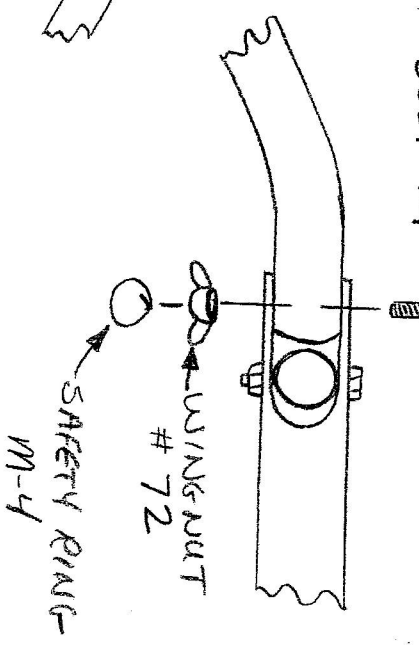
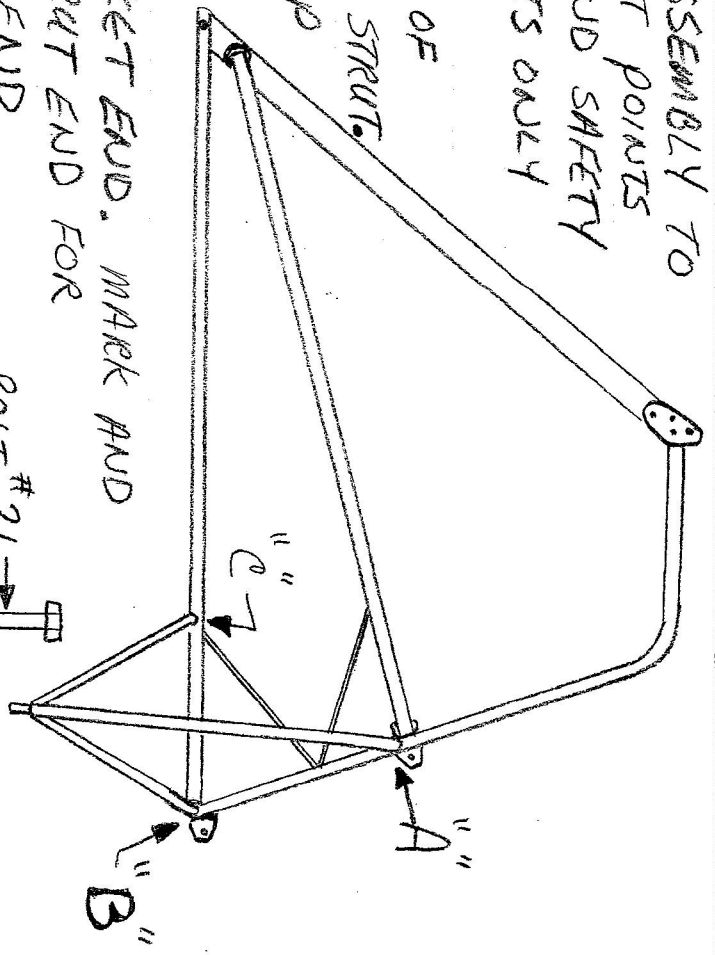
DRILLING. DRILL A $\frac{1}{4}$ " DIA. HOLE IN END.

RE-INSTALL STRUT AND SECURE

WITH BOLT, WINGNUT AND

SAFETY RING AS SHOWN.

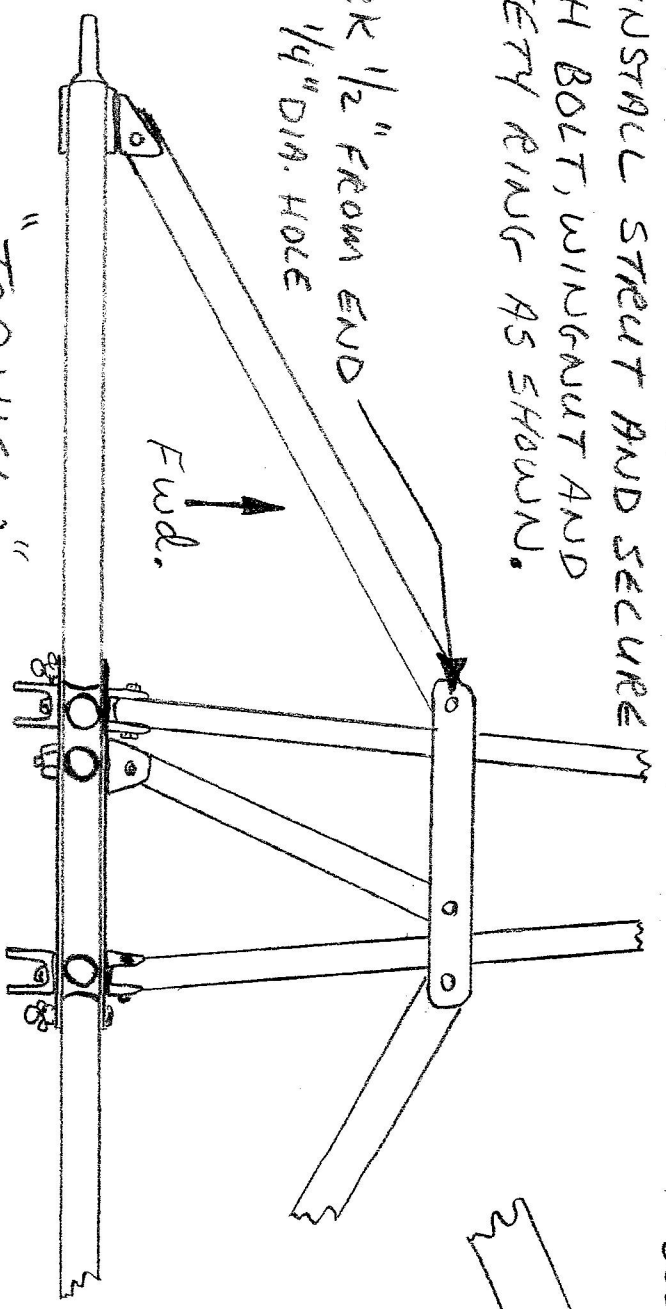
MARK $\frac{1}{2}$ " FROM END
DRILL $\frac{1}{4}$ " DIA. HOLE



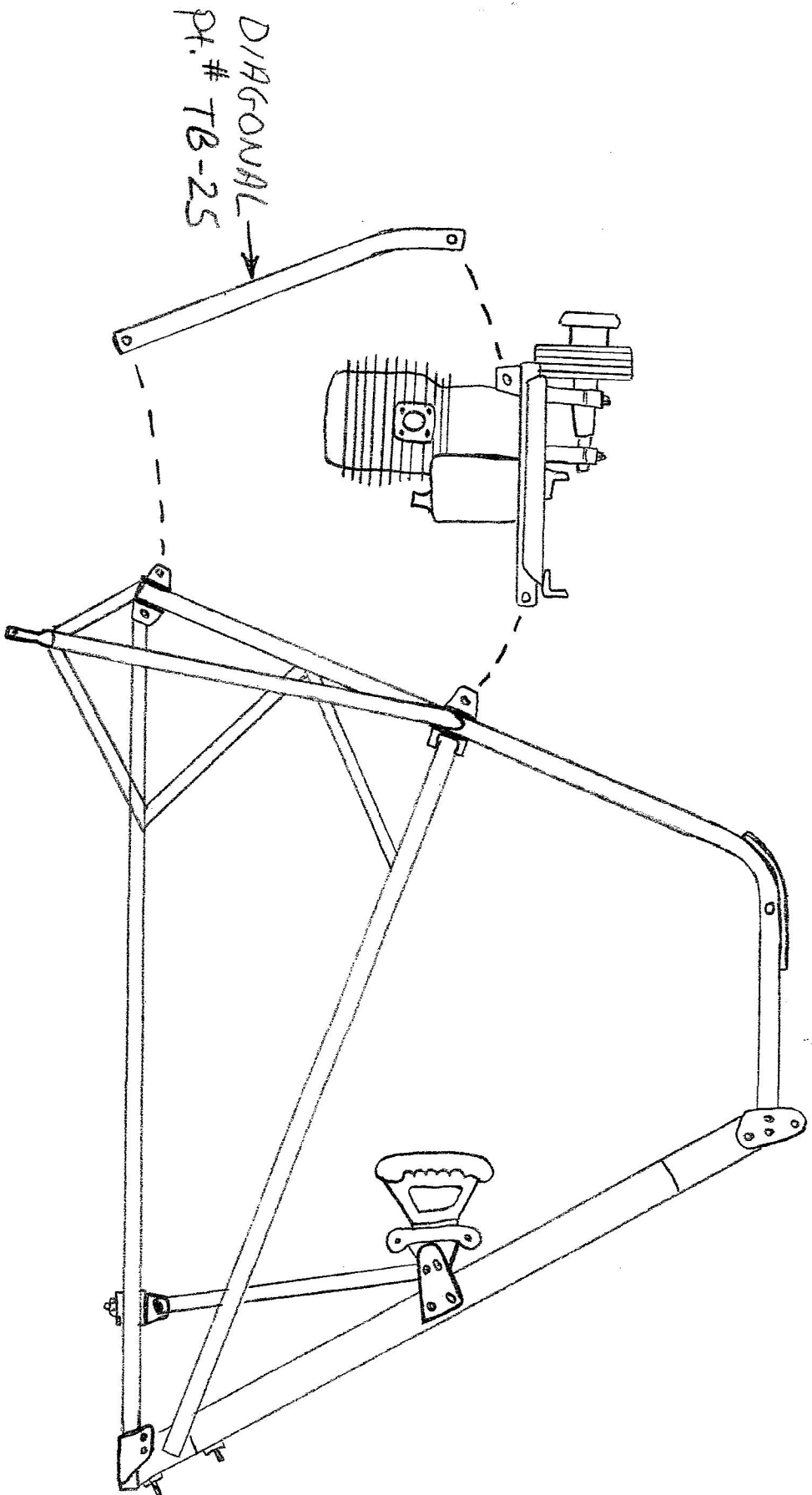
End.

"TOP VIEW"

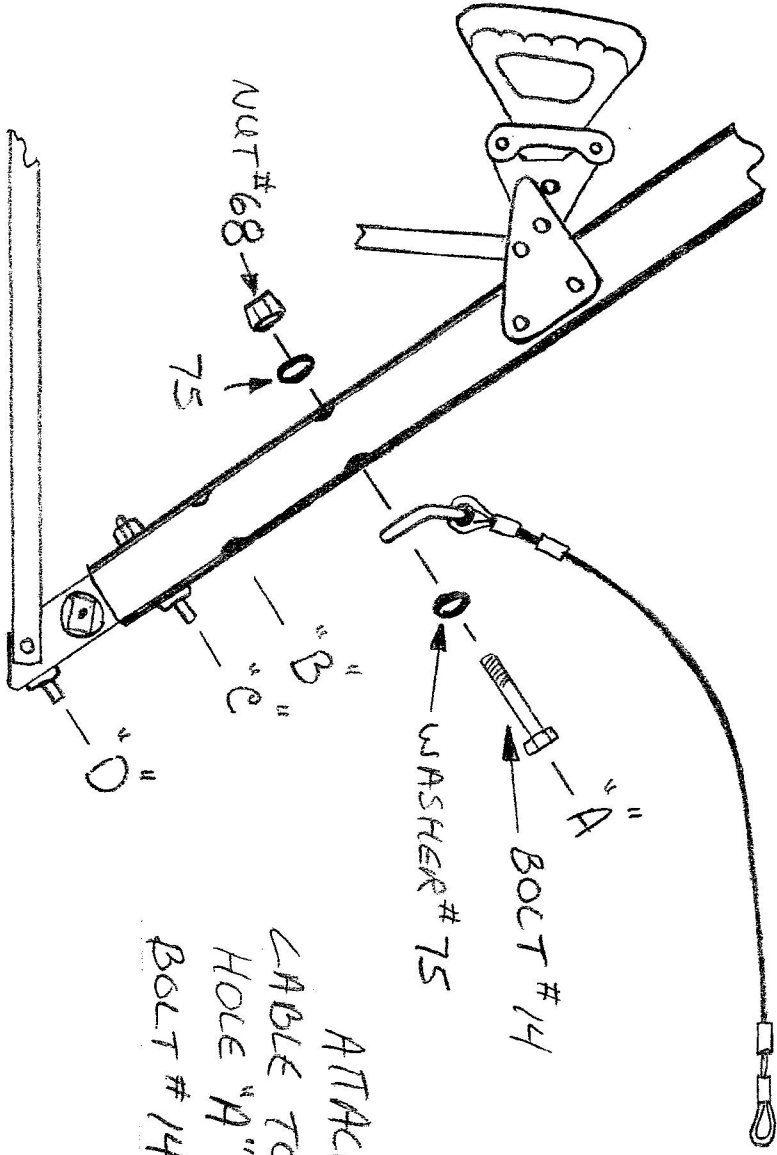
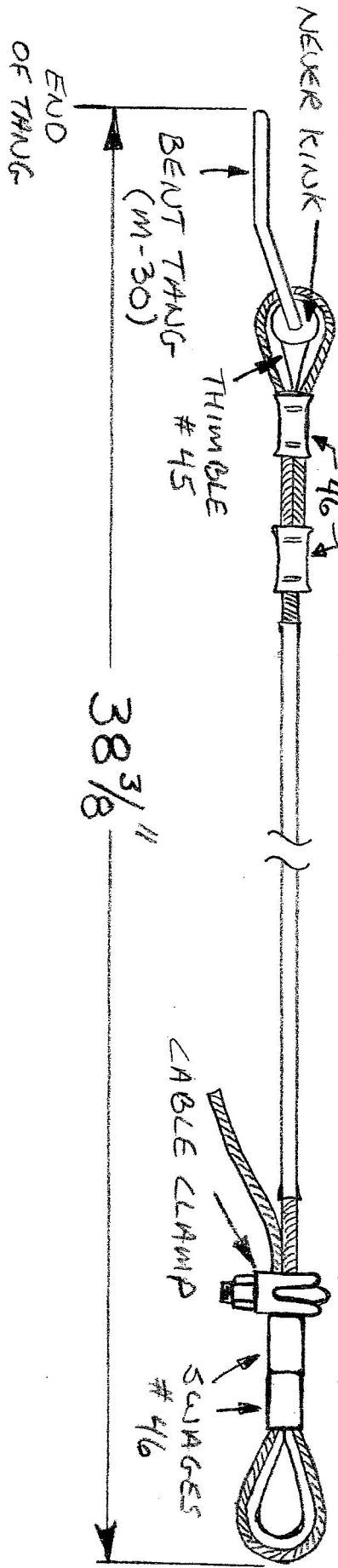
LEFT SIDE L.G. ASSEMBLY



STEP # REMOVE ENGINE MOUNT DIAGONAL TUBES AND REPLACE WITH NEW "B"-MODEL DIAGONALS PT.#(TB-25). RE-ATTACH ENGINE MOUNT ASSY. TO FRAME WITH ORIGINAL BOLTS AND WASHERS. REPLACE WORN FIBRE LOCKNUTS WITH NEW NUTS # 68 ETC. RE-INSTALL ALL OTHER ENGINE, EXHAUST, LAUNCH GEAR, CONTROLS AND UNDER CHASSIS COMPONENTS NECESSARY FOR OPERATION OF KASPERWING- AND TIGHTEN ALL COMPONENTS SECURELY!

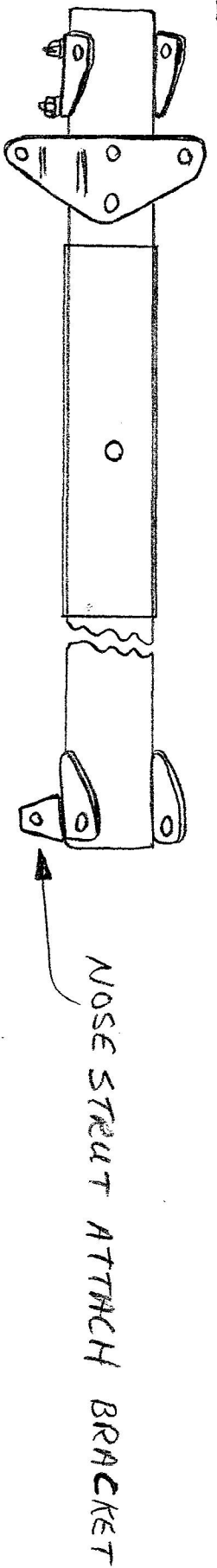


STEP# CUT A PIECE OF 3/32" CABLE, 48" LONG. STRIP ABOUT 8" OF PLASTIC COATING FROM BOTH ENDS. MAKE-UP A MANNUSTRUT/NOSEWIRE CABLE TO DIMENSION SHOWN. PERMANENTLY SWAGE TANG END BUT LEAVE THIMBLE END CLAMPED FOR LATER ADJUSTMENT.

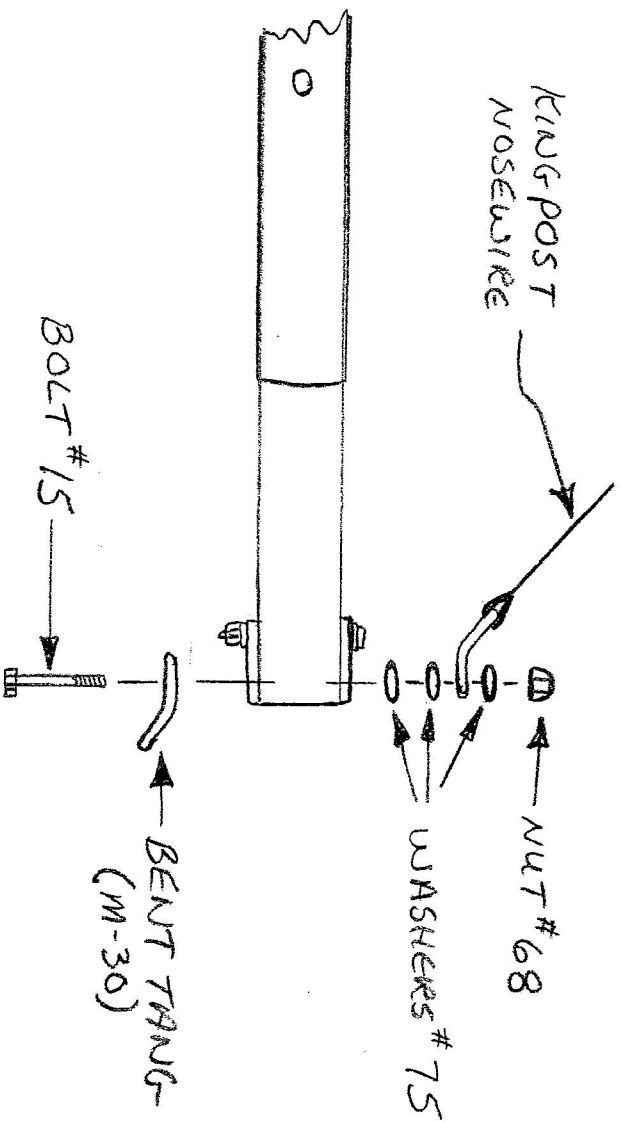


ATTACH MANNUSTRUT/NOSEWIRE CABLE TO MANNUSTRUT TUBE AT HOLE "A" AS SHOWN. TIGHTEN BOLT #14 SECURELY!

STEP # UNBOLT KEEL TUBE ASSEMBLY FROM WING AND REMOVE ALL
15. BRACKETS AND HARDWARE.

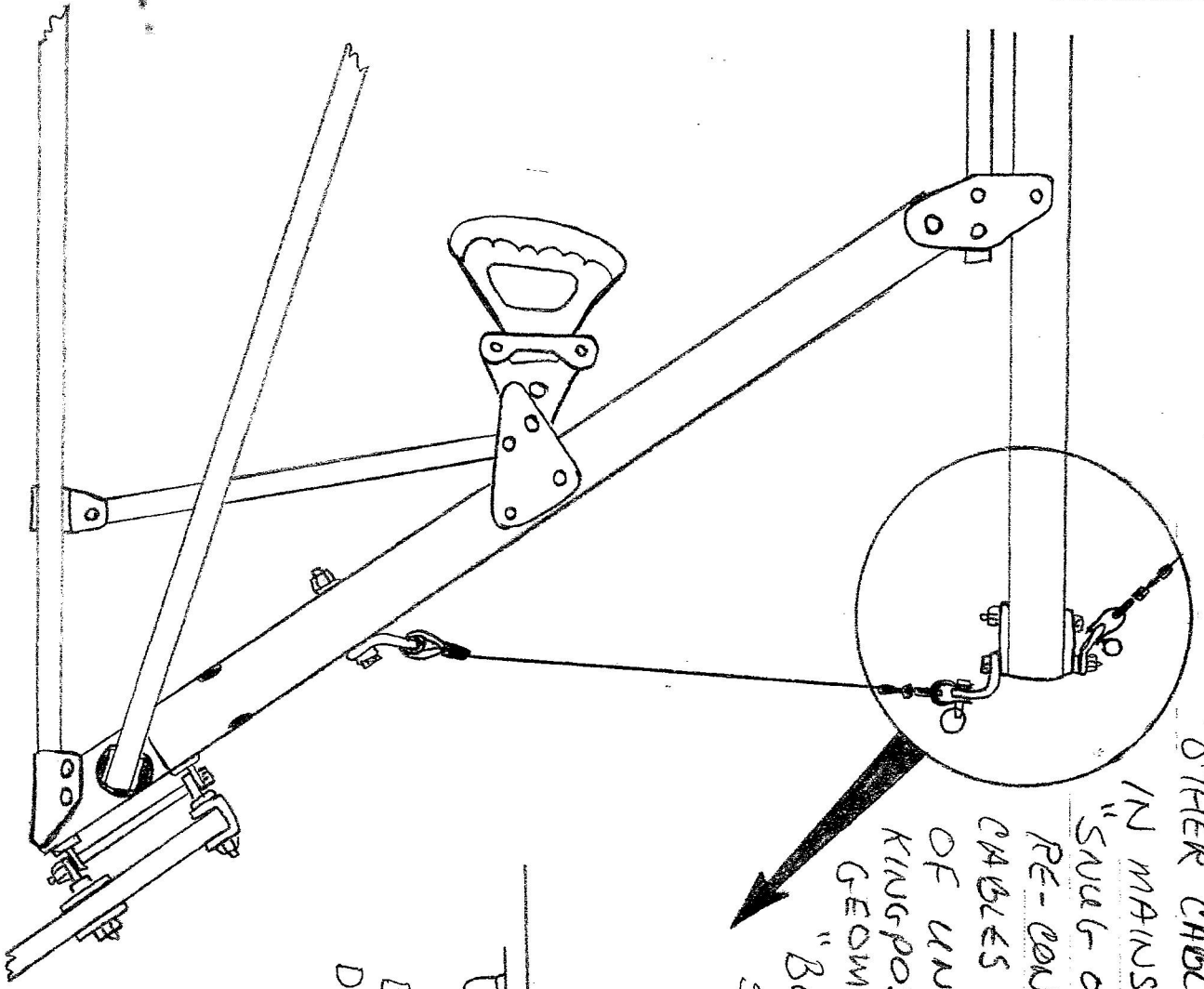


RE-INSTALL BRACKETS AND HARDWARE ON NEW B-MODEL KEEL
TUBE PT# TB-6 AS SHOWN. REPLACE NOSE STRUT ATTACH BRACKET
WITH BENT TANG PT# M-30.

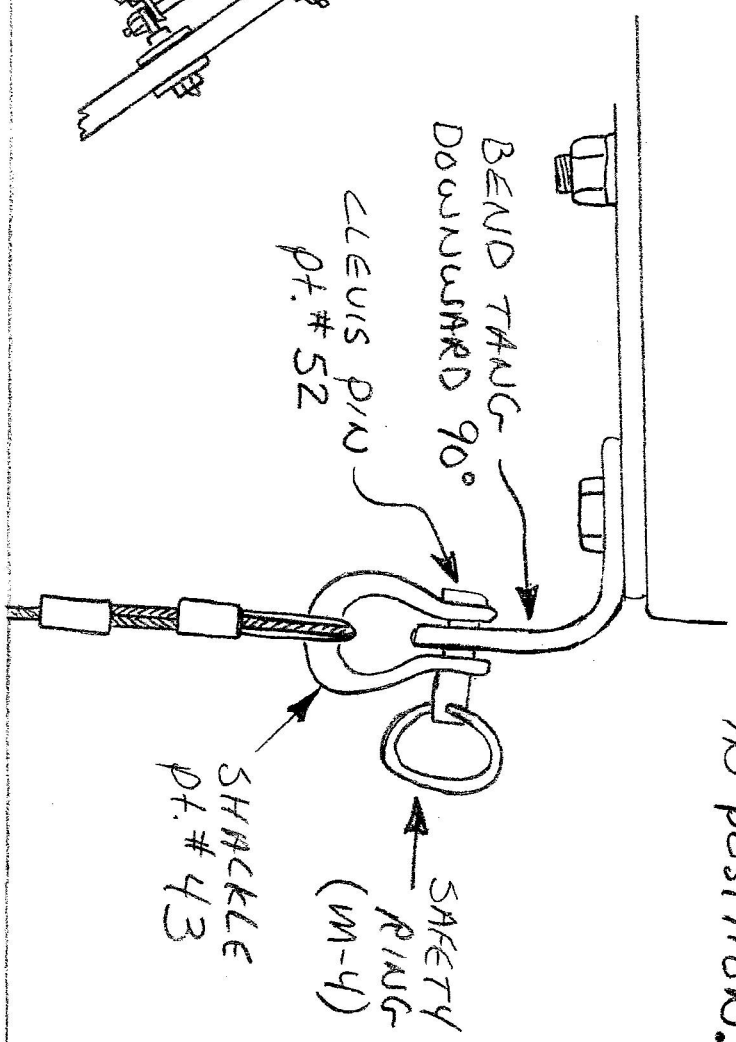


RE-INSTALL NEW B-MODEL KEEL ASSEMBLY IN WING AND
ATTACH SPARS. TIGHTEN ALL MOUNTING HARDWARE SECURELY!

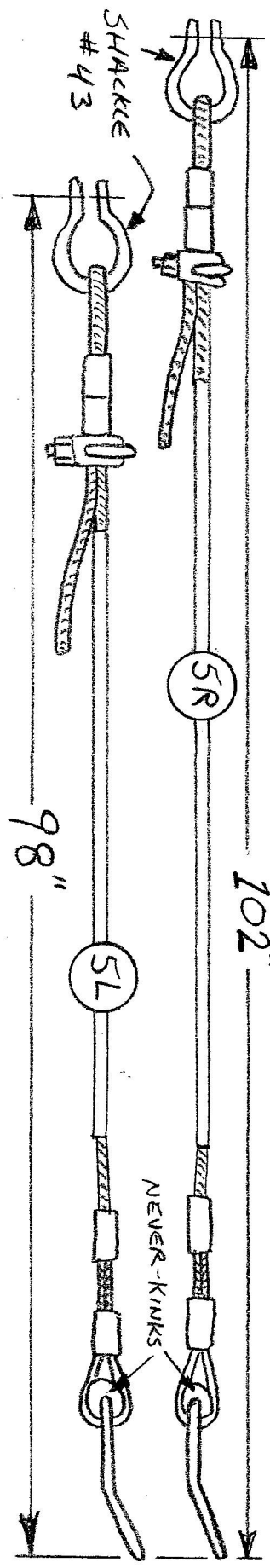
STEP # 16. ATTACH WING TO TOP OF UNDERCARRIAGE. BEND TAUG ON FRONT OF NOSEPLATE, DOWN 90° AS SHOWN. CONNECT MAINSTRET/NOSE WIRE CABLE TO TAUG WITH SHACKLE, CLEVIS PIN AND SAFETY RING. DO NOT CONNECT ANY OTHER CABLES AT THIS TIME. ADJUST TENSION



IN MAINSTRET/NOSE WIRE CABLE UNTIL IT IS "SQUAB ONLY" AND CAN BE EASILY DISCONNECTED. RE-CONNECT ALL FLYING WIRES EXCEPT CABLES SR AND SL WHICH CONNECT REAR OF UNDERCARRIAGE TO WING. RAISE KINGPOST TENSIONER AND CHECK RIGGING GEOMETRY. KEEL TUBE SHOULD NOT BE "BOWED" UP OR DOWN AND WING SHOULD HAVE "ZERO WASHOUT". ADJUST MAINSTRET/NOSE WIRE AS NECESSARY AND PERMANENTLY SWAGE IN POSITION.



STEP # 17. LOCATE CABLES SR AND SL (ATTACHES REAR OF UNDERCARRIAGE TO WING) AND REMOVE BENT TAGS FROM INBOARDED ENDS. MAKE UP A NEW PAIR OF CABLES SR+SL AS SHOWN.



ATTACH CABLES SR+SL TO UNDERCARRIAGE AND REAR WING SPARS. LOWER KNOGPOST TENSIONER AND REMOVE SLACK FROM CABLES. DO NOT TIGHTEN CABLES MORE THAN SNUG WITH TENSIONER IN THE DOWN POSITION. MEASURE AND PLACE A PENCIL MARK AT POINT "A" ON CHANNEL BRACKET. RAISE TENSIONER AND ADJUST CABLES TO EQUAL TENSION AND EQUAL DISTANCES FROM POINT "A" TO SYMMETRICAL MEASURING POINTS ON THE WING. WHEN PROPER ADJUSTMENT IS OBTAINED, CLAMP CABLES AND PERMANENTLY SWAGE IN POSITION. BE SURE

TO USE A PROPER SWAGING TOOL! THIS WILL FINISH THE CONVERSION. NOW GO BACK OVER AIRFRAME AND CHECK TO BE SURE AIRCRAFT HAS BEEN PROPERLY RE-ASSEMBLED. DOUBLE CHECK ALL FASTENERS AND DO A THOROUGH AND COMPLETE PRE-FLIGHT.

