

MATCO mfg

P.O. 58604

SALT LAKE CITY, UT 84108
(801) 486-7574

MATCO mfg. ASSEMBLY INFORMATION

Congratulations on your purchase of MATCO mfg wheels. We are proud of the products that we manufacture which are engineered to give you many years of service. If you have any inquiry about our products please feel free to call our customer service for help. The following information should answer most of your questions about the assembly.

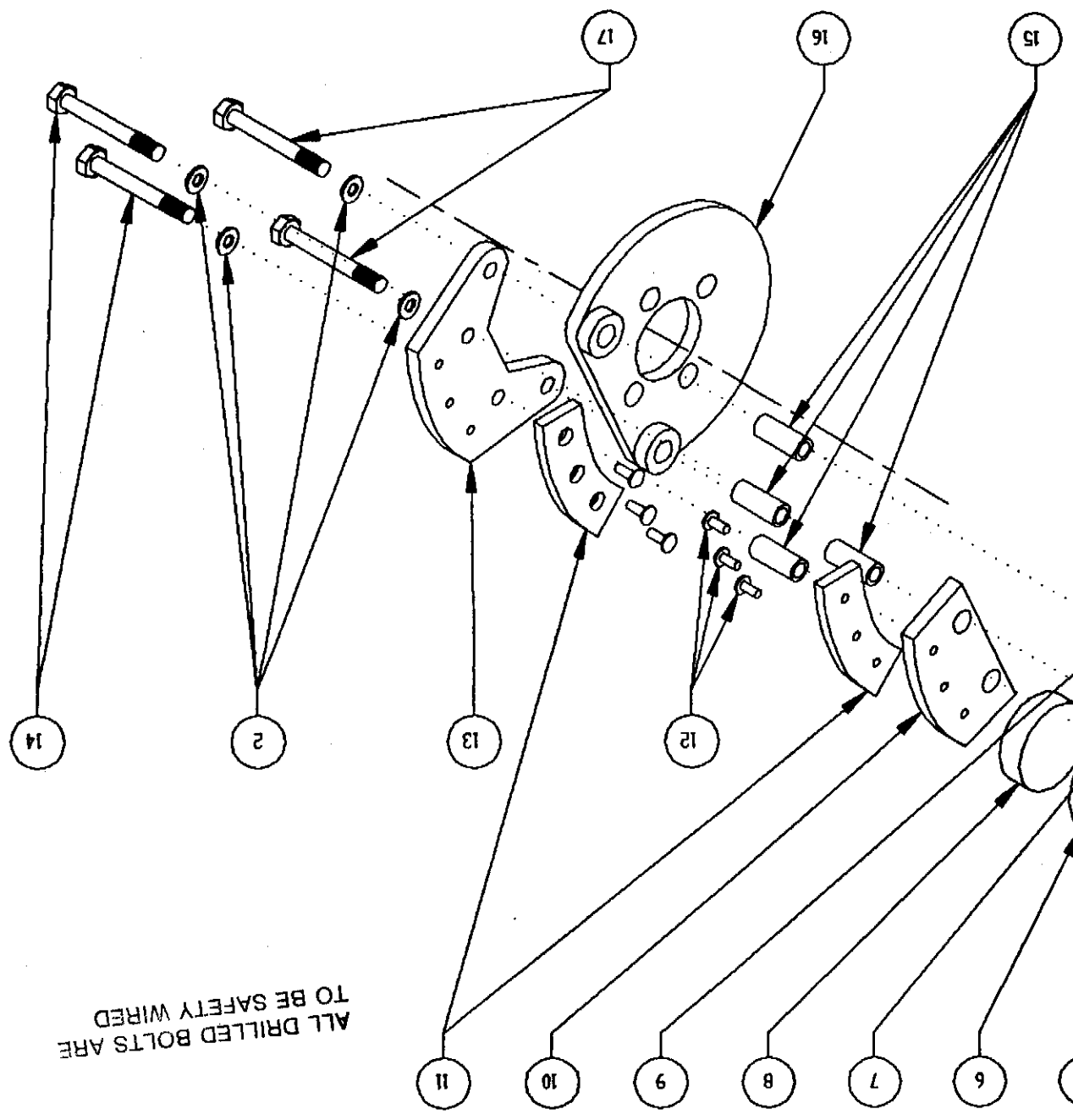
1. Brake mounting plate (#16 on the five/six brake assembly, #12 on dual puck assembly and #8 on four inch brake assembly drawing) should be spaced from bearing so that it aligns in the same plane and parallel with brake disk (#3 on wheel assembly drawing).
2. All tapered roller bearings are oiled from factory for rust prevention, but not greased. Tapered roller bearings should be cleaned, dried and then packed with suitable grease. Packing grease without first removing the oil will dilute the wheel grease, causing it to run out past the seal and not lubricate properly.

All ball bearings are sealed ball bearings and do not require additional maintenance.
3. Tighten axle nut until all play is out of assembly. Rotate wheel back and forth while tightening the nut to help seat the bearing. When all play is out of assembly, and wheel rotates freely, tighten to next castle slot and insert cotter pin. The rubber seal on the tapered roller bearings will remain stationary while the wheel rotates around it. If the seal is spinning on the axle, the nut should be tightened further until the seal stops spinning with the wheel.
4. All "O" rings in the brake and master cylinder assembly are BUNA-N and are not compatible with automotive glycol based brake fluid. ONLY red aircraft fluid (Mil H 5607) or other suitable petroleum or silicon based fluid should be used.
5. The ideal mounting position for brake caliper is trailing side of wheel at 270 degrees from vertical. However it may be mounted at any location as long as the system can be bled of air properly.
6. If the MATCO bolt on axle is used, it can be shimmed for toe-in or toe-out and spaced out from wheel if needed so brake disc attachment screws (#2) will clear gear leg. Axle material is black anodized 2024 T-351 aluminum.

65 EAST KENSINGTON AVE. SALT LAKE CITY, UT 84115

MANUFACTURER OF AIRCRAFT COMPONENTS

| 3DSBRAKE | | MATCH MFG 65 East Kensington Ave SALT LAKE CITY, UT 84115 (801) 486-7574 | |
|----------|----------------------------------|--|------|
| QTY | PART NAME | INVENTORY NO. | RECD |
| 1 | NUT (TORQUE TO 50 IN. LBS.) | 1/4-28 NYLONK | 2 |
| 2 | WASHER | AN960-416L | 6 |
| 3 | CAP PLUG | 2X | 1 |
| 4 | BRAKE HOUSING | P5 | 1 |
| 5 | BRAKE BLEEDER SEAT | BBS | 1 |
| 6 | BUNA-N O-RING | 2-222 | 1 |
| 7 | BRAKE BLEEDER VALVE | F6446-007 | 1 |
| 8 | PISTON | P-1 | 1 |
| 9 | DUST PLUG | P-18 | 1 |
| 10 | MOVABLE BRAKE SHOE | MBS5 | 1 |
| 11 | BRAKE LINING | 66-106 | 2 |
| 12 | RIVET | 4-6 | 6 |
| 13 | STATIONARY BRAKE PLATE | SBS5 | 1 |
| 14 | BOLT (TORQUE TO 50 IN. LBS.) | 1/4-20X2 (DRILLED) | 2 |
| 15 | BRAKE SPACER | BB1 | 4 |
| 16 | BRAKE PLATE BPA1-3/8 (VARIES) | | 1 |
| 17 | BOLT AN4-17A | | 2 |



ALL DRILLED BOLTS ARE
TO BE SAFETY WIRED

3D FIVE / SIX INCH BRAKE ASSEMBLY
DRAWN BY: GARY P. LANGFORD
CHECKED BY:
SCALE: NONE
DATE: DEC. 3, 1990

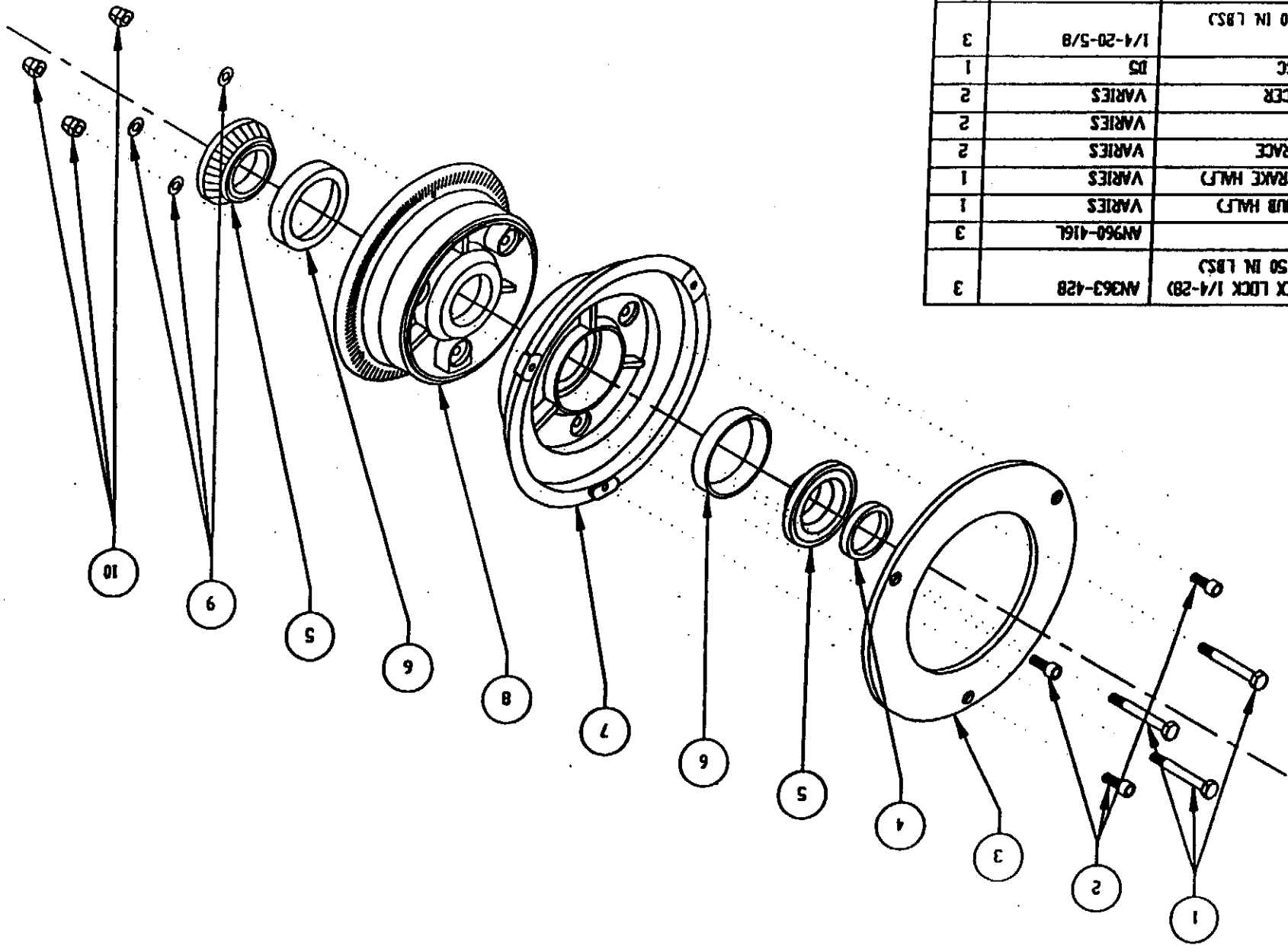
| NO. | PART NAME | INVENTORY NO. | REQ'D |
|-----|---|--------------------|-------|
| 1 | BOLT | AN4-20A (S' WHEEL) | 3 |
| 2 | SHCS (TORQUE 40 IN LBS.) | AN4-16A (6' WHEEL) | 3 |
| 3 | BRACE DISC | 1/4-20-5/8 | 1 |
| 4 | AXLE SPACER | VARIES | 2 |
| 5 | BEARING | VARIES | 2 |
| 6 | BEARING RACE | VARIES | 2 |
| 7 | WHEEL (BRAKE HALF) | VARIES | 1 |
| 8 | WHEEL (DRUM HALF) | VARIES | 1 |
| 9 | WASHER | AN960-416L | 3 |
| 10 | NUT (FLEX LOCK 1/4-20) (TORQUE 50 IN LBS.) | AN63-42B | 3 |

HATCHU #18
65 East Kensington Ave
SALT LAKE CITY, UT 84115 (801) 486-7574

WHEEL ASSEMBLY

DRAWN BY: GARY P. LANGFORD
CHECKED BY:

SCALE: NONE
DATE: NOV. 29, 1990



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MATCO mfg WHEEL BOLT TORQUE INSTRUCTIONS

| <u>WHEEL</u> | <u>BOLT</u> | <u>TORQUE</u> |
|-------------------------|-----------------------------------|--|
| 4 inch | 10 - 24 10 - 24 10 - 32 | 13.8 inch pounds in alum 23.8 inch pounds in steel 33.1 inch pounds in steel |
| 5 inch | 1/4 - 20 1/4 - 28 | 45.6 inch pounds in alum 99 inch pounds in steel |
| 6 inch and 8 inch | 1/4 - 20 5/16 - 18 1/4 - 28 | 45.6 inch pounds in alum 80 inch pounds in alum 99 inch pounds in steel |

Disclaimer

All material included in this information is advisory only, and its use by anyone is entirely voluntary. Reliance on its contents for any purposes by anyone is at sole risk of that person, and Matco Mfg is not responsible for any loss, claim or damage arising therefrom. In developing this information, Matco Mfg has made a determined effort to present its contents accurately.

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MATCO mfg

65 E. Kensington Ave.
Salt Lake City, UT 84115
(801) 486-7574
(801) 486-7581 FAX

MATCO Mfg.

**BRAKE DISC:
INSPECTION and SERVICE**

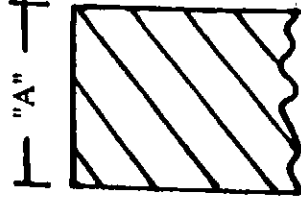
The Matco brake disc should give years of trouble-free service under normal field conditions. Conditions such as unimproved fields, standing water, industrial pollution, even infrequent use of the aircraft, may require more frequent inspection of the discs in order to prolong the life of the brake lining.

The disc faces should be checked for wear (Dim. "A"), and for any grooves, deep scratches, excessive pitting, or coning of the brake disc. Coning beyond ".015" in either direction would be cause for replacement. Coning, however, is rarely a problem with a Matco disc.

Isolated grooves up to .030 deep should not be cause for replacement, although general grooving of the disc will reduce the lining life.

Discs are normally plated for rest prevention, but the plating wears off where the lining rubs in just a few landings. The remaining portion of the disc should be corrosion free for several years under normal use. Chrome plated disc are available from Matco for additional corrosion protection and wear.

Rust in varying degrees can occur. If a powdered rust appears, one or two taxi-braking applications should wipe the disc clear. Rust build-up beyond this point, may require removal of the disc from the wheel to properly clean both surfaces. Wire brushing followed by sanding with 220 grit sandpaper should restore the braking surfaces adequately.



"A" = MINIMUM THICKNESS ALLOWABLE

(measure at 2 or 3 points to get
average disc thickness)

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SERVICE BULLETIN

SUBJECT: Brake lining Installation

Following are instructions on how to properly remove and replace brake linings on the MATCO mfg brake shoes.

Remove the old brake lining by drilling from the crimped side of the rivet. Using a #25 drill (0.1495 diameter), drill through the rivet taking care to avoid damaging the rivet hole. After drilling crimped edge off all rivets, carefully lift old lining and remaining rivet pieces off of brake shoe. A punch should not be used to remove the rivet as it may result in distortion of the rivet hole.

Inspect the brake shoe for any bending or other damage which may have occurred in service. A shoe with more than .010 bend should be replaced. Inspect to ensure rivet hole has not been damaged during removal.

Using a rivet squeezer or pneumatic press, replace lining using 4-4 or 4-6 brass rivet only. A punch and hammer should not be used to replace the lining as it may result in damage to the lining, incorrect seating of the rivet, or distortion of the rivet hole.

Questions regarding brake lining installation or part numbers for respective brake shoes can be referred to the technical support department of MATCO mfg at 65 East Kensington Avenue, Salt Lake City, Utah 84115 or by telephoning (801) 486-7574.

18 June 1993

65 EAST KENSINGTON AVE. SALT LAKE CITY, UT 84115

MANUFACTURER OF AIRCRAFT COMPONENTS

65 E. Kensington Av. S.L.C. UT., 84115
MATCO (801) 486-7574

FILE NAME: MC-150

DATE: MARCH 21, 1988

CEL. NO.

1 OF 4

NO. 1

DRW. BY: MY KIM SCALE:

MC-4A

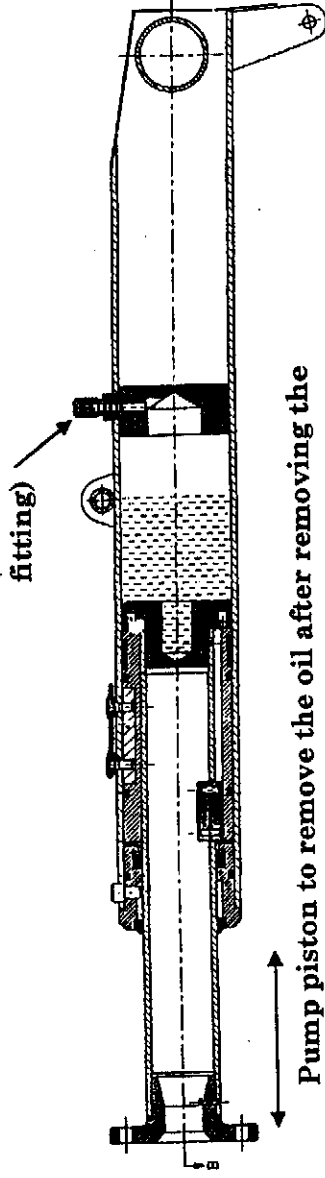
SCALE:



Nose Strut Service

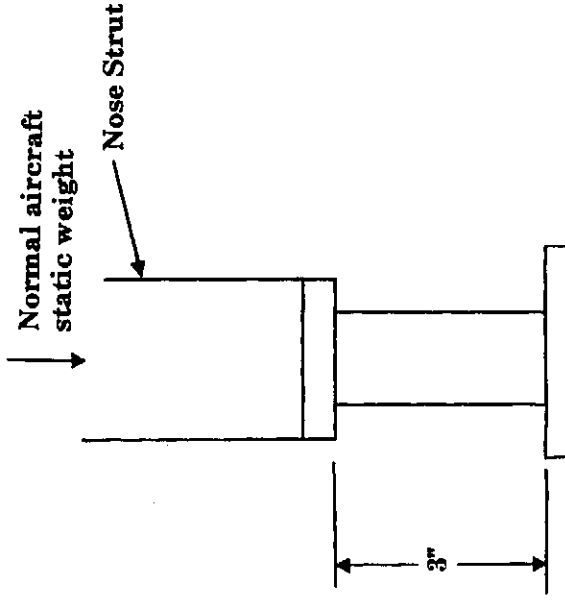
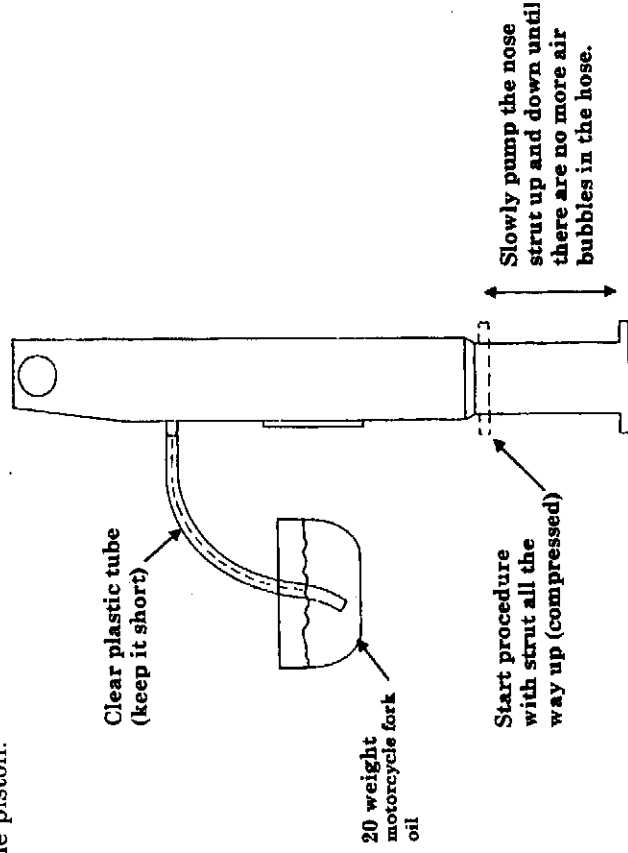
Following is the method of servicing the nose strut.

1. If the strut is installed on the aircraft, support the nose of the aircraft in order to take the weight off the nose strut.
2. Remove the valve cap and deflate the nose strut. (internal core of inflation Schrader Valve fitting)



Pump piston to remove the oil after removing the Schrader valve core.

3. Remove the Schrader valve using a valve stem remover tool. Put a rag over the Schrader valve stem to catch the oil and then pump the piston.
4. Slip a clear plastic tube over the valve. Before starting, push the strut all the way up, or to the fully compressed position. Drop the free end of the tube into a bowl with 20 weight motorcycle fork oil. Pump the strut until there is no more air in the line, then fully compress the strut.
5. Re-install the Schrader valve core.



6. Inflate the nose strut using Nitrogen. Inflate such that 3" (+/- 1/4") of the strut is showing. Push the tail of the aircraft down to release some of the weight on the nose strut and then let go. Re-measure the nose strut and adjust to pressure as necessary. Note: Nitrogen, rather than air should be used. Typical pressure required is 250-300 psi.

13/02/98

16:42

ESCO INDUSTRIES P/L

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If no oil leakage is evident but the extended height is decreasing over a period of days, check that the main valve is not leaking by forming a water film over the valve mouth. If extra nitrogen gas has to be added more frequently than 6 months, the unit should be disassembled and all seals checked and replaced where necessary as per Disassembly and Assembly Instructions.

Check that the Cylinder extension height is being maintained for a given C of G loading on level ground.

Check for any oil leakage from the unit.

Daily Inspection

Service

If the Strut has been upgraded to include the Centering Cam, leave the Clamp Flange loose, align the wheel to the longitudinal axis of the Aircraft (again with the Strut at full extension), tighten the 4 off Fork Bolts and then tighten the Clamp Weldment.

If installing the Strut into the Aircraft for the first time (as per the Lancair Assembly Manual), lock the Clamp Flange so that it's holes line up with the centre of the slots on the Flange. This will allow for 2° of adjustment with reference to the centre line of the aircraft. Note that adjustments must be done with the Centering Cam engaged. (ie; with the Strut at full extension).

The Slots in the Flange and the addition of the Flange Weldment are to allow for some adjustment of the wheel assembly during installation. This feature complies with the Centering Cam and ensures that the wheel is tracking the longitudinal axis of the aircraft when the Centering Cam is engaged.

Installation

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