

WESTERN

A MODEL NEWS

THE OFFICIAL NEWSLETTER OF
THE MODEL A RESTORERS CLUB (WESTERN AUSTRALIA BRANCH) INC.

NEXT MEETING: DATE : SUNDAY, MARCH 27 1983
 TIME & PLACE : 9:30 gathering at Causeway Car Park

For this RESTORATION RUN we planned to meet at the Causeway Carpark then drive to Stephen Read's workshop (Axiom Automotives - Cnr. Cooper Ave & Royal St, Kenwick) to view the progress of his Tudor Sedan. From there it will be off to the Unkovich Garage (13 Godwin St, Lesmurdie) to see what John has in store.

Lunch stop is planned to be at Stirk Park, Kalamunda, where there will be plenty to keep the whole family occupied.

The final stop of the day will be at Eric Richard's in Gooseberry Hill. From there it's homeward bound! Pack a cold lunch and come join us!

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It was amazing - last month's meeting had the best turn out of restored Model A's in the history of the club - it was great to see. Six A's and about four moderns made a pleasant trip from Fremantle to be joined by another 3 moderns at Rockingham where we commandeered most of the shade in Churchill Park; held our meeting while the kids threw themselves into the ocean with gay abandon to be promptly bitten by jellyfish! The "plentiful barbecues" were almost non-existent and of those that were there, only one worked. Some members felt they were having 'afternoon tea' instead of lunch.

The usual club business was discussed at the meeting.

Don Philp has made a move to have sample cast iron brake drums cast and machined as a pilot study to establish a costing before making a batch to offer to club members at a reasonable price. Don will be supplying a further sample in the near future.

It was suggested and agreed that our Club should put on a display of vehicles in the 1984 Combined Car Clubs Day. This is being followed up and more information will be in later newsletters.

Accounts: The Club funds at February 1st stood at \$328.47. February receipts were \$44.33 and Payments \$30.08 - Balance at 27th February stood at \$322.72.

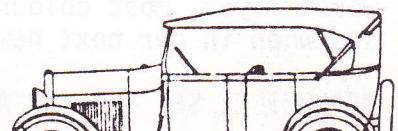
Annual Vehicle Inspection: YES, it's that time of year again.

Most M.A.R.C. members will have had their vehicles examined over the weekend of 12th & 13th March through the Veteran Car Club.

:: Members who have not had club vehicles (whether Concessional or Fully licensed) checked are to contact M.A.R.C. Vehicle Examiner, Ray Mahony (Phone: 271-7630) to make arrangements for their vehicle to be inspected before the April meeting.

All Vehicle Examination Reports (current) issued by a club other than MARC are to be sighted by either the Club Secretary or Vehicle Examiner and the information noted in the Vehicle Up-date Register. This MUST be done in order to validate Concessional Licences and to permit Fully Registered vehicles to participate in our Club events.

SIGN ON TYRE STORE - "WE SKID YOU NOT"



"GO" CAR OR "SHOW" CAR !!

At our last meeting the subject of "Concourse" judging was briefly discussed. From the comments, although brief, it does not seem to be an area our members are too keen to be involved in.

"Concourse" is a fairly heavy part of the U.S. clubs annual programs but even there it tends to split members cars into "GO" cars and "SHOW" cars. We don't generally know what effect this has on club life but we do know we enjoy a fairly relaxed, casual club atmosphere here in W.A. with the emphasis on family participation and to date this is good.

However, there are several good reasons where some form of competition or even "Judging" can add more interest to a Club and perhaps we should be looking at ways to introduce these.

The advantages of any kind of judging or examination of any one or anything tends to sharpen attitudes. More research is undertaken. Higher standards are set and attained; greater effort is made to, in our case, restore our cars with a better finish and closer to the original finish when new.

Research in itself becomes an absorbing interest and with Ford A's there is a vast amount of information available.

For a long time there was a shortage of detail about Canadian A's but gradually more information has filtered thru. We now have Australian Judging Standards and these, combined with details of the finish of parts obtained from American publications enable us to produce a very credible finish on our cars.

Another result of research means higher standards are aimed for - ie: Engines are painted the correct colour, upholstery is matched to original, correct parts are installed on correct year models. Hybrid cars and modified cars are avoided.

There are of course some disadvantages to the pursuit of perfection!

Owners of purely "SHOW" cars in the U.S. rarely drive them. Their cars are taken to shows in covered and sometimes, airconditioned trailers; only wheeled out for the display if the temperature is over 65° or under 75° ! Engines are run only for judging and of course never driven.

Well, that used to be the case but the clubs have changed all that now and cars must drive a mandatory ten mile tour as part of judging.

It is not uncommon for a Second or Third placegetter to be taken home and completely pulled down and rebuilt, repainted and even new upholstery put in, in order to take the elusive First prize in the next Concourse. Many thousands of dollars are spent and all in the pursuit of perfection.

It is not even remotely suggested that we in W.A. should seek such fanatical degrees of finish. What is suggested is that a high standard be sought by all of our members and indeed this is already a fact. Our club will be judged by the finish we project in each car.

WANTED: Front doors, left rear door, left rear guard, late 28 door locks and handles, hood irons or parts, starter motor or parts. SWAP OR SELL
AR right front guard - PHONE: PETER LYNCH 342-2389.

EARLY WARNING FOR APRIL MEETING

"K I T E D A Y"

Okay kids - young and old - get out the paper, sticks, glue and string, etc. and begin making your HOME MADE KITE in preparation for our upcoming "Kite Day". If you're not sure how to make a Kite - trot off to the Library for information or at the next meeting Laurel Cooke will have some diagrams of Kites (*kindly supplied by the South Australian M.A.R.C. newsletter*) along with instructions for those who may require them. Prizes will be awarded for best flyer (kite not member), worst flyer, most colourful, etc. etc. - who knows what!! Information on where and when in our next newsletter - BUT GET ON WITH THOSE HOME MADE KITES.

MEANWHILE, SEE YOU ALL AT 9:30 AM AT THE CAUSEWAY CARPARK, SUNDAY, MARCH 27TH.

CLUTCH CHATTER

Rear Brakes Restoration

by Paul Moller, George Klecka & Bill Friar

Photos by Walter Malchin

DISASSEMBLY

To begin, remove the wheel, cotter pin and axle nut. If a knock-off type wheel puller is used, remove the hubcap also. Remount the wheel without the hubcap and screw the knock-off nut tight to the axle end. Let this wheel down and jack up the opposite wheel. After the wheel is up, place a jack-stand under the axle and remove the jack. Jack-stands are highly recommended as a safety measure. Jacks or makeshift arrangements are too dangerous. See Fig. 1. Note that the antique jack is not under the car. A couple of good raps with a heavy hammer will usually loosen the drum. Remove the axle nut and repeat the procedure on the opposite side of the vehicle. Loosen the brake adjusting wedge to keep the shoes from dragging while the drum is pulled. A puller that fastens to the lug nuts may be needed if the drums have been on for years.

Remove the clevis pins from the brake rod ends; unscrew the bolt that holds the emergency lever, expand the slot with a screwdriver and pull the lever off. Re-

move the small half moon key at the end of the shaft. A pair of pliers is needed to remove the internal emergency band springs. The emergency band can be pulled out of the carrier complete with shaft and toggle links. Next, remove the nuts from the bolts that hold the backing plate to the axle housing end, but leave the longer pair of bolts that pass through the radius rod in place so the radius rod doesn't drop off.

A screwdriver is used to lift the roller end of the shoes out and over the cam to release the springs. Turn the brake rod lever forward, tilt the plate over the axle end to allow the lever to pass through the open end of the radius rod.

To remove the brake camshaft from the backing plate, the pins must be drilled out. Grind the end of the pin flush with the lever, spot the exact center of the pin with a punch and drill a hole through the pin with a small drill bit. Follow with the next larger size drill and finish with a 7/32 drill bit. This will leave a thin shell that will collapse with a tap of a hammer.

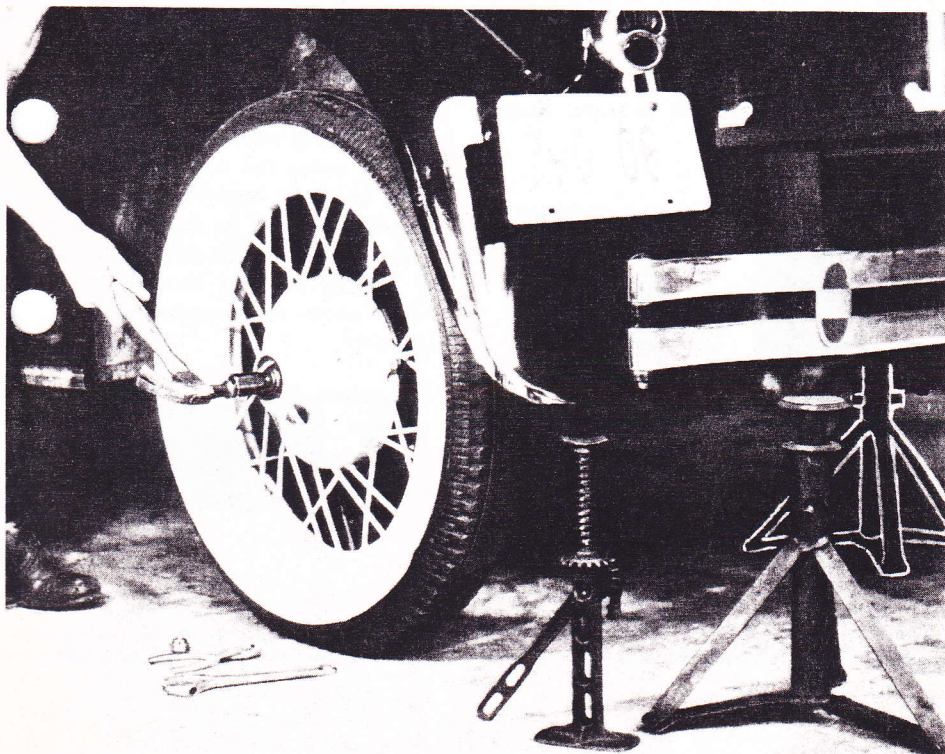


Fig. 1. Wheel being pulled is on the floor while opposite side is up on the jackstand.

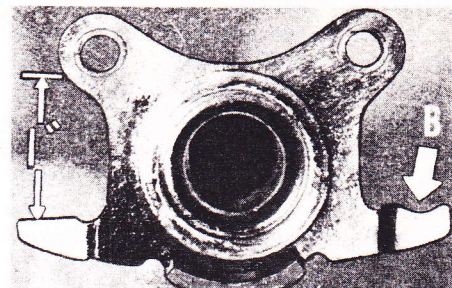


Fig. 2. The roller track plate, arrow shows wear. Left side has been repaired.

Turn the adjusting wedge in until it pushes the little cover off. Tap the end of the wedge lightly and the wedge is out. Keep the parts for each wheel in a separate container.

To clean the mud and grease from the backing plate, a good wire wheel is suggested. (During this phase of the operation, please use goggles to protect your eyes.) Follow with a bath in hot water and detergent. Wipe dry. If a do-it-yourself car wash is handy, take the parts there. The hot water, detergent and pressure do a fine job after the lumps have been removed. After cleaning, check all parts for wear.

REBUILDING THE BACKING PLATE

After the backing plate has been cleaned, replace the camshaft bushings with new ones. No reaming is needed. Bushings for the emergency lever and shaft should also be replaced. The shaft is usually badly worn and a good shaft may be hard to find, but replacing the bushings will help. Paint the plate inside and out. If possible replace all the small working parts such as, rollers, pins, springs, camshaft, adjusting wedges and links. If adjusting wedges cannot be obtained, try transferring the left to the right side and the right to the left side. The cam should slide freely on the camshaft, to equalize the shoe pressure.

THE ROLLER TRACK

Examine the roller track, see Fig. 2. This is part of the plate that is fastened to the backing plate with rivets which also serve as spring anchors. The head of the pin used to hold the rollers at the brake shoe ends, roll or slides on the track edge of the plate to support the shoes. If the track is badly worn, the shoes may not align properly to the drum surface and more pedal effort will be required.

These tracks can be built-up with weld. Either use a milling machine or file carefully by hand to restore the original shape. The surface of the track is one inch from the bottom of the rivet in the plate. Do not remove the roller track from the backing plate.

GREASE SEALS

A good grease seal in the drum is needed to keep grease in the roller bearing and off of the brake lining. Now is a good time to replace it. First, remove the locking ring that fits into a groove in the hub just above the seal. A screwdriver will work it out. Insert the tip under the seal and work your way around to pry it out. The new seal should be pressed in by means of a press. A piece of pipe with a diameter equal to the seal may be used to belt it in place. A little oil on the outer surface of the seal will help ease it in. Add the locking ring to finish the installation.

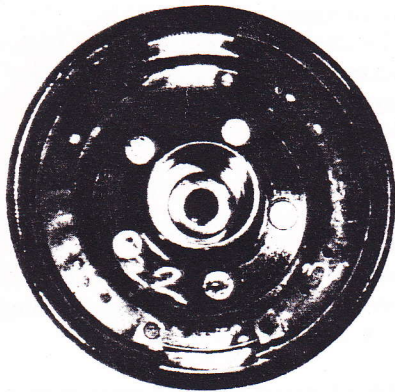


Fig. 3. When the drums are turned and the linings ground to fit, shoes and drums are marked as sets. Set No. 2 is shown.

DRUMS

The total service brake lining area is 168 square inches, if everything fits and works properly. Good working parts, roller tracks and a brake adjustment are needed to do the job. To get full shoe contact, the lining must match the round surface of the drum. Now then, if the lining doesn't match the contour of the drum, some of the square inches are not doing the job. If the drums need to be turned, have the shoes ground to match the drum they are to be used with. Each set should be marked with a matching number as shown in Fig. 3. If the drums had been turned previously, there will be a shoulder at the hub inner side. Check here to see how much metal was removed. The Model "A" drums are thin; if too much metal is removed they may warp. If your drums are too thin, look

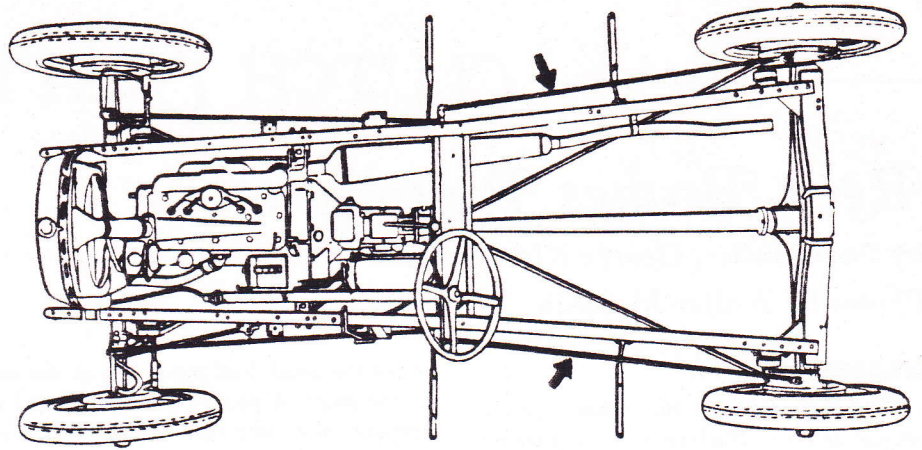


Fig. 4. Simple diagram of chassis. Arrows point to brake rods which run at an angle to the backing plate.

around for a better set of drums. A shim may be needed under the lining if the drum is turned. If you rivet your own linings, use a 4-5 rivet instead of the 4-4 rivet normally used. There are 110 rivets required to hold all the linings on the "A."

REASSEMBLY, REAR DRUM

Fig. 4 is a simple diagram of the chassis. Arrows point to the brake rods that run at an angle to the backing plate. The levers that connect the brake rods and operate the shoes are forged at an angle on the clevis end to compensate for the chassis angle. See Fig. 5 and Fig. 6. Note that the levers are stamped RH and LH, if not marked check the angle to make sure that the correct one is used.

To install the backing plate, turn the brake rod lever forward so that it will pass through the open end of the radius rod while the plate is tilted to go over the axle end. Fit the plate on the two radius rod bolts that were left in place. Install two nuts temporarily.

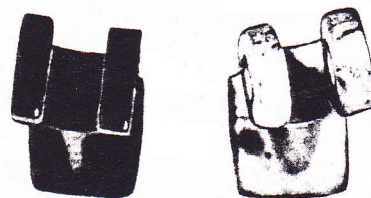


Fig. 5. Top view of emergency levers showing angle of clevis end.

Start the adjusting wedge and turn it all the way in. Push the adjusting links on the shoes into the adjusting wedge housing. The bevel of the link must match the wedge. With the shoe in its normal position and the link started into

the housing, hook the long two-coil spring into both shoes. Add a short spring to the roller end of one shoe and to the rivet that acts as a spring anchor. With both ends of the spring in place lift and push the roller end of the shoe into place on the cam. Repeat with the

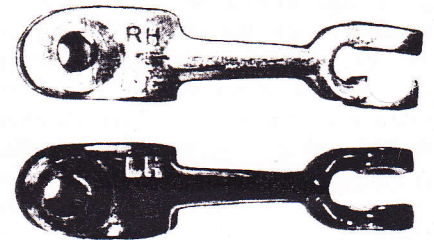


Fig. 6. Emergency brake levers are marked right and left and should not be mixed.

other shoe. All can be put in place without using tools. Pack the wedge housing with grease and tap the little cover back into place. Pull the lever to check the operation of the shoe. Remember — the rods pull the levers to push the shoes against the drums. Masking tape can be used to cover the new lining to keep it clean until the drum is ready to go on. Remove the tape as the last step before installing the drum. All rolling, sliding or moving surfaces should be greased. Fig. 7 shows the complete service shoe assembly.

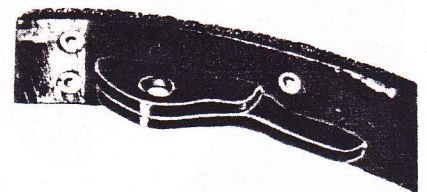


Fig. 7. One end of the emergency brake band showing flush rivets and detail of boss that holds toggle links.

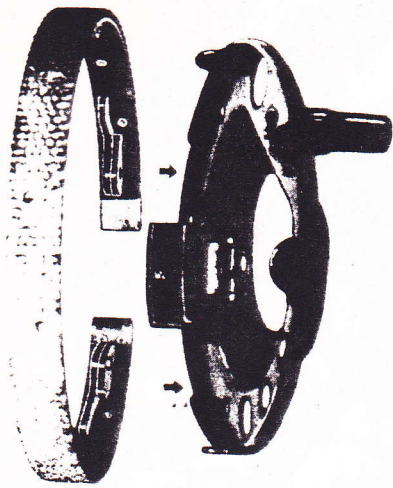


Fig. 6. Emergency lining at the left, emergency carrier at the right. Note how the bosses on brake band must fit recesses in plate.

When the emergency bands are relined, note that the two rivet holes at each end are countersunk from the inside. These rivets must be flush with the shoe surface so it can slide on the flat part of the lining carrier. Grinding of the pads may be needed, see Fig. 8. The arrows point to the area.

The toggle links may be installed incorrectly.

Fig. 9 shows the right and wrong way. If installed incorrectly, the lining will appear as in Fig. 10. The lining fails to seat on the carrier and the outer edge contacts the revolving drum, which will stop the car quickly and permanently.

Before installing the emergency assembly, check to see that all the service brake parts are in place and secured. Remove the pair of nuts added to hold the backing plate temporarily. There is a left and right emergency assembly; be sure the proper side is being installed. The emergency lining band with the toggle links and shaft will go on as a unit.

The shaft and bushing should be well greased as there is no grease fitting. Push the shaft through the bushings and seat the band around the carrier. The springs may be installed with a pair of pliers. Set the key into the shaft while you are looking down over the backing plate; add the coil spring, push the lever on the shaft and fasten with the bolt. Hook one end of the spring and hook the other to the lever. There are left and right springs. Add the other pair of nuts and bolts; secure with cotter pins. Install the emergency brake rod first. Hold the clevis pin with a pair of vise grip pliers while the cotter pin is inserted. Follow with the service brake rod. Check to see that the adjusting wedge is turned all the way out and the emergency band is snug on the carrier. This will help the drum go on easier. The completed lining assembly appears in Fig. 12.

A film of grease on the axle end will make future removal for cleaning or inspection easier.

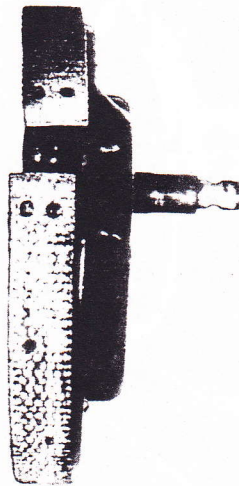


Fig. 10. When toggle links are incorrectly assembled the emergency band will not line up properly on the carrier plate.

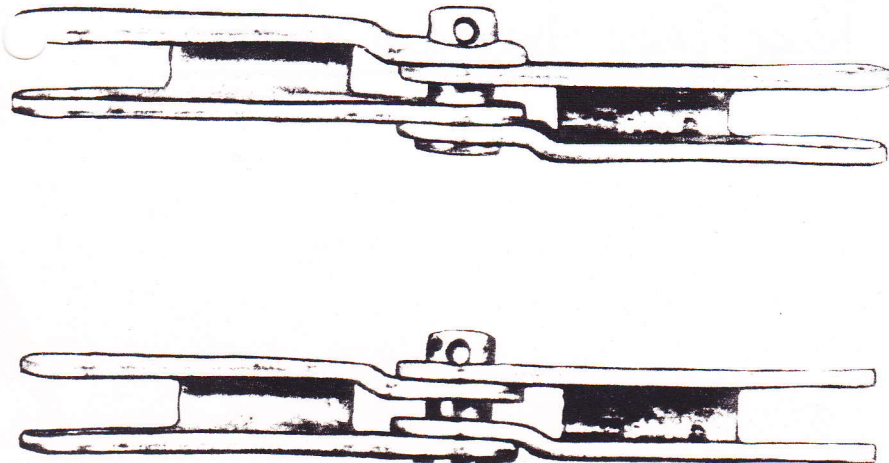


Fig. 9. Two views showing correct (top) and incorrect (bottom) method of assembling toggle links on emergency brake band.

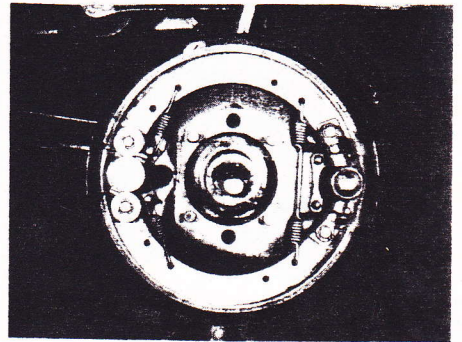


Fig. 11. The rear service brakes installed without the emergency.

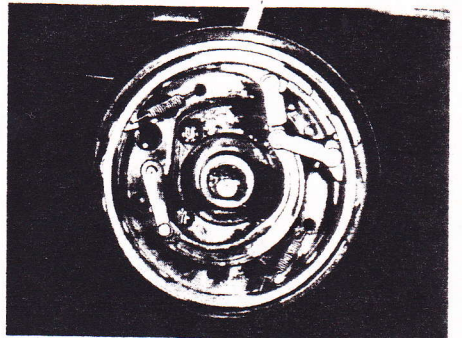
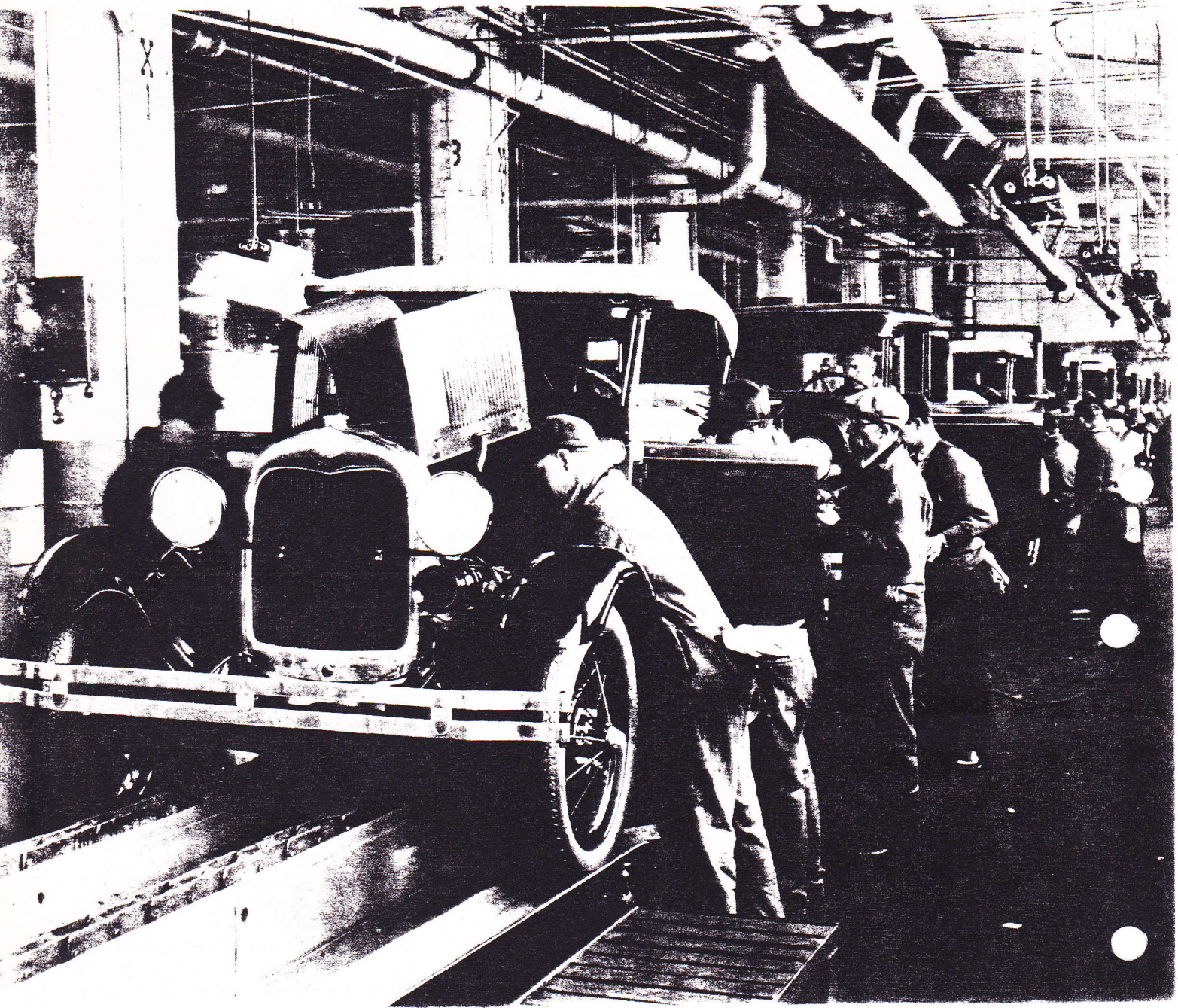


Fig. 12. The complete lining assembly before drum is added.

There seem to be at least 50 different ways of adjusting brakes. One method is suggested here. In the "A" more holding power is desired in the rear brakes than the front. Properly adjusted, with full pedal effort, the rear brakes should slide while the front brakes have a strong hold on the drum. This type of action keeps the brakes from affecting the steering and pulling the car to one side.

Three pedal positions are desired; one inch from the floor, one and one-half inches and two inches from the floor. Measure the distance from the back of the pedal to the floor. Cut a block of wood one inch shorter than this measurement and two more pieces, each one-half inch shorter than the preceding block. Disconnect the brake rods, adjust each wheel until the brake starts to drag and then back off until there is just a slight amount of drag. Now put the longest block under the pedal and have someone push down firmly on the pedal. Install the rear brake rods for a snug fit of the clevis pin. The rod clevis may need to be turned in or out. Do this for both rear wheels. Tighten the lock nuts on the clevis. The front rods are adjusted with the next smaller block by one-half inch using the same method. The third or shortest block is used as a check to see if the rear wheels are tight while the front wheels have a firm drag. Full brake action should take place with the pedal halfway to the floor. Don't fail to tighten all the lock nuts on the clevis ends.



Assembly Line - Rouge Plant December 9th 1927