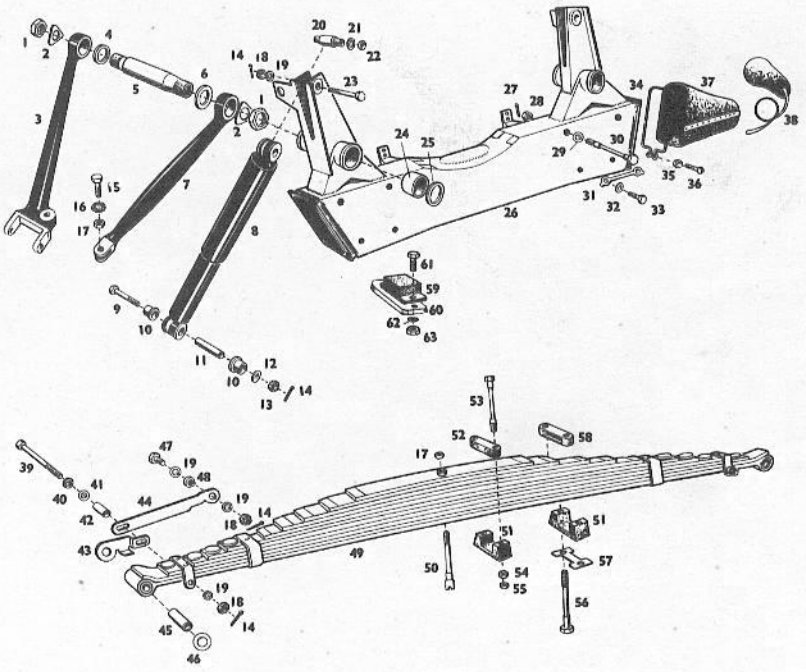
Front Suspension

Front Suspension

List of Contents

TYPE 404. FRONT SUSPENSION CROSS MEMBER & SPRING

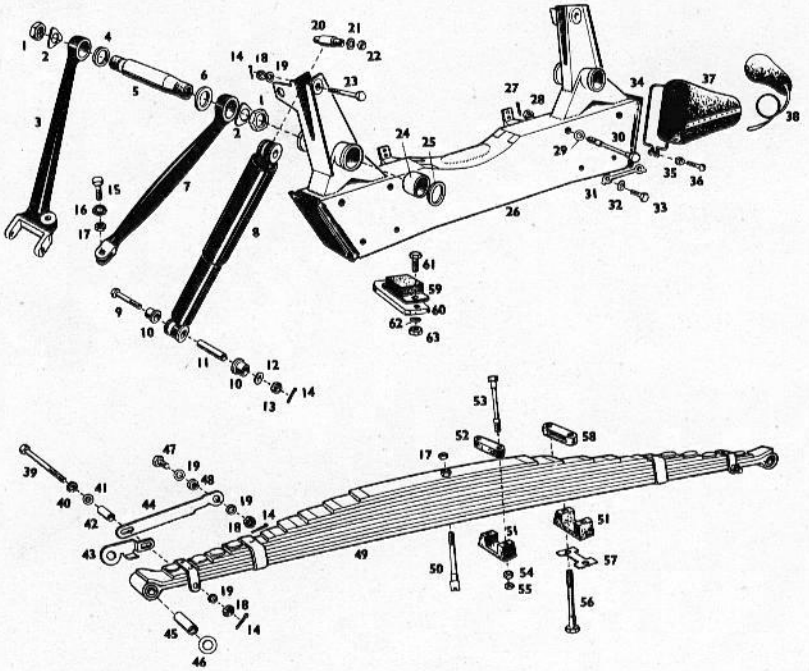
Part No.	Item	Description	No. off per car	Part No.	Item	Description	No. off per car
FN216/L	1	Thin Nut 1" BSF	4	-	29	Washer ½" plain	4
404-1-23034	2	Lockwasher	4	N. 422761	30	Bolt	4
405-1-23035	3	Major Radius Arm	2	N. 422201	31	Tabwasher	2
404-1-23005	4	Thrust Washer - Front	2	-	32	Washer ½" Shakeproof	4
404-1-23003	5	Wishbone Fulcrum Pin	2	FS108/6D	33	Setscrew ½" BSF	4
404-1-23014-1		Thrust Washer - Rear .150 thickness		405-1-23020	34	Clip - Gaiter to Crossmember	2
404-1-23014-2		Thrust Washer - Rear .155 thickness		FN104/K	35	Nut ¼" BSF	2
404-1-23014-3		Thrust Washer - Rear .160 thickness		-	36	Screw ¼" BSF Rd Hd. 2" long	2
404-1-23014-4		Thrust Washer - Rear .163 thickness		N. 421941	37	Gaiter for Spring Leaves	2
404-1-23014-5		Thrust Washer - Rear .167 thickness		N. 422011	38	Gaiter for Spring End RH	1
404-1-23014-6	6	Thrust Washer - Rear .115 thickness	2	N. 422051	-	Gaiter for Spring End LH	1
404-1-23014-7		Thrust Washer - Rear .120 thickness	selec-	FB105/30D	39	Bolt 5/16" BSF	2
404-1-23014-8		Thrust Washer - Rear .125 thickness	tive	AGS586/G	40	Double Coil Spring Washer 7/16" dia.	2
404-1-23014-9		Thrust Washer - Rear .130 thickness		-	41	Washer 7/16" dia. 17 SWG	2
404-1-23014-10		Thrust Washer - Rear .135 thickness		N. 422851	42	Distance Piece	2
404-1-23014-11		Thrust Washer - Rear .140 thickness		405-1-23038	43	Safety Link	2
404-1-23014-12		Thrust Washer - Rear .145 thickness		N. 422831A	44	Safety Strap RH	1
404-1-23004	7	Minor Radius Arm	2	N. 422831B	-	Safety Strap LH	1
404-1-23025	8	Front Telescopic Shock Absorber (Girling)	-	N. 421821-2	45	Bush - Front Spring	2
404-1-23048	-	Front Telescopic Shock Absorber (Armstrong)	-	N. 422961-1		Washer .113 thickness	
404-II-23081	-	Front Telescopic Shock Absorber (Telaflo)	-	N. 422961-2		Washer .120 thickness	
FB106/30D	9	Bolt 3/8" BSF	2	N. 422961-3	46	Washer .127 thickness	2
N. 722017	10	Distance Piece - Bottom	4	N. 422961-4		Washer .134 thickness	selec-
N. 722015	11	Distance Piece - Bottom	2	N. 422961-5		Washer .105 thickness	tive
-	12	Washer 3/8" Plain	2	FB105/9D	47	Bolt 5/16" BSF	2
FN406/L	13	Nut 3/8" BSF	2	N. 422841	48	Distance Piece	2
-	14	Split Pin 1/16" dia 1" long	2	404-1-23002	49	Front Transverse Spring	1
FB106/10D	15	Bolt 3/8" BSF	2	404-1-23032	50	Centre Bolt	1
-	16	Washer 3/8" Shakeproof	2	N. 421811	51	'U' Piece for Spring	2
FN106/L	17	Nut 3/8" BSF	3	N. 421831	52	Yoke for Spring	2
FN405/L	18	Nut 5/16" BSF	6	404-1-23031	53	Bolt	4
-	19	Washer 5/16" Plain	6	FN107/K	54	Nut 7/16" BSF	4
404-1-23006	20	Spool	2	FN207/K	55	Locknut 7/16" BSF	4
404-1-23028	21	Washer	4	-	56	)	
FN208/K	22	Thin Nut ½" BSF	4		57	)Not used on Type 404	
FB105/24D	23	Bolt 5/16" BSF	2		58	)	
404-1-23001-6	24	Bush for Fulcrum Pin	2	N. 421851	59	Rubber Buffer	2
404-1-23033	25	Felt Seal	2				
404-1-23033	25	Felt Seal	2	-	60	Not used on Type 404	
405-1-23009	26	Crossmember No.1.	1	-	61	Bolt 2BA Hex Hd 5/8" long	4
-	27	Split Pin 3/32" dia. 1¼" long	4	-	62	Washer 2BA Shakeproof	4
FN408/L	28	Nut ½" BSF Slotted	4	-	63	Nut 2BA Plain	4



TYPE 405. FRONT SUSPENSION CROSS MEMBER & SPRING.

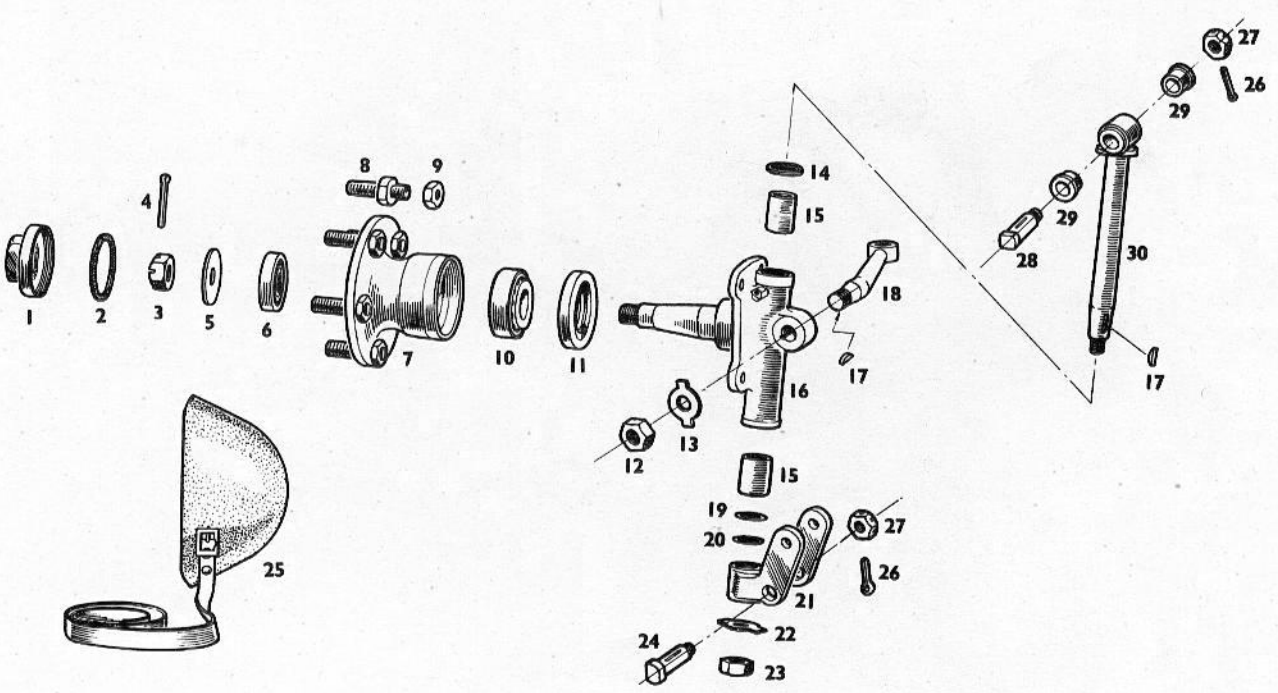
Part No.	Item	Description	No. off per car
FN.216/L	1	Thin Nut 1" BSF	4
404-1-23034	2	Lockwasher	4
405-1-23035	3	Major Radius Arm	2
404-1-23005	4	Thrust Washer - Front	2
404-1-23003	5	Wishbone Fulcrum Pin	2
404-1-23014-1	6	Thrust Washer - Rear .150 thickness)	
404-1-23014-2	-	Thrust Washer - Rear .155)	
404-1-23014-3	-	Thrust Washer - Rear .160)	
404-1-23014-4	-	Thrust Washer - Rear .163)	
404-1-23014-5	-	Thrust Washer - Rear .167)	
404-1-23014-6	-	Thrust Washer - Rear .115)	
404-1-23014-7	-	Thrust Washer - Rear .120)	as reqd
404-1-23014-8	-	Thrust Washer - Rear .125)	
404-1-23014-9	-	Thrust Washer - Rear .130)	
404-1-23014-10	-	Thrust Washer - Rear .135)	
404-1-23014-11	-	Thrust Washer - Rear .140)	
404-1-23014-12	-	Thrust Washer - Rear .145)	
404-1-23004	7	Minor Radius Arm	2
404-1-23025	8	Front Telescopic Shock Absorber	2
FB.106/30D	9	Bolt 3/8" BSF	2
N.722017	10	Distance Piece	4
N.722015	11	Distance Tube	2
-	12	Washer 3/8" Plain	2
FN406/L	13	Nut 3/8"Slotted	2
-	14	Split Pin 1/16" dia. 1" long	4
FB.106/10D	15	Bolt 3/8" BSF	2
-	16	Washer 3/8" Shakeproof	2
FN.106/L	17	Nut 3/8" BSF	2
FN.405/L	18	Nut 5/16" BSF	6
-	19	Washer 5/16" Plain	6
404-1-23006	20	Spool	2
404-1-23028	21	Washer	4
FN.208/L	22	Thin Nut ½" BSF	2
FB105/25D	23	Bolt 5/16" BSF	2
404-1-23001-6	24	Bush for Fulcrum Pin	4
404-1-23033	25	Felt Seal	4
405-1-23009	26	Cross Member No.1	1
		Used on Chassis 4000-4051	
404-II-23092	-	Cross Member No.1	1
		Used on and from Chassis 4052	
-	27	Split Pin 3/32" dia. 1¼" long	4
FN.408/L	28	Nut ½" BSF Slotted	4

Part No.	Item	Description	No. off per car
-	29	Washer ½" Plain	4
N.422761	30	Bolt	4
N.422201	31	Tabwasher	2
-	32	Washer ½" dia. Shakeproof	4
FS108/6D	33	Setscrew ½" BSF	4
405-1-23020	34	Clip - Gaiter to Crossmember	2
FN104/K	35	Nut ¼" BSF	2
-	36	Screw ¼" BSF Rd. Hd 2" long	2
N.421941	37	Gaiter for Spring Leaves	2
N.422011	38	Gaiter for Spring End RH.	1
N.422051	-	Gaiter for Spring End LH.	1
FB105/30D	39	Bolt	2
AGS586/G	40	Double Coil Spring Washer 7/16" dia.	2
-	41	Washer 7/16" dia. 17 SWG	2
N.422581	42	Distance Piece	2
405-1-23038	43	Safety Link	1
N.422831A	44	Safety Strap RH.	1
N.422831B	-	Safety Strap LH.	1
N.421821	45	Bush - Front Spring	2
N.422961-1	46	Washer .113 thickness	2
N.422961-2	-	Washer .120 thickness	-
N.422961-3	-	Washer .127 thickness	-
N.422961-4	-	Washer .134 thickness	-
N.422961-5	-	Washer .105 thickness	-
FB105/9D	47	Bolt 5/16" BSF	2
N.422841	48	Distance Piece	2
405-1-23018	49	Front Transverse Spring	1
405-1-23013	50	Centre Bolt	1
N.421811	51	'U' Piece for Spring	2
N.421831	52	Yoke for Spring) Used on	2
405-1-23012	53	Bolt) Chassis	4
FN107/K	54	Nut 7/16" BSF) 4000 to	4
FN207/K	55	Locknut 7/16" BSF) 4051.	4
404-II-23089	56	Bolt)	4
404-II-23091	57	Locking Plate) Used on Chassis 4052 on	2
404-II-23090	58	Yoke)	2
N.421851	59	Rubber Buffer	2
405-1-23027	60	Packing Piece	2
-	61	Bolt 2BA x 1" long	4
-	62	Washer 2BA Shakeproof	4
-	63	Nut 2BA Plain	4



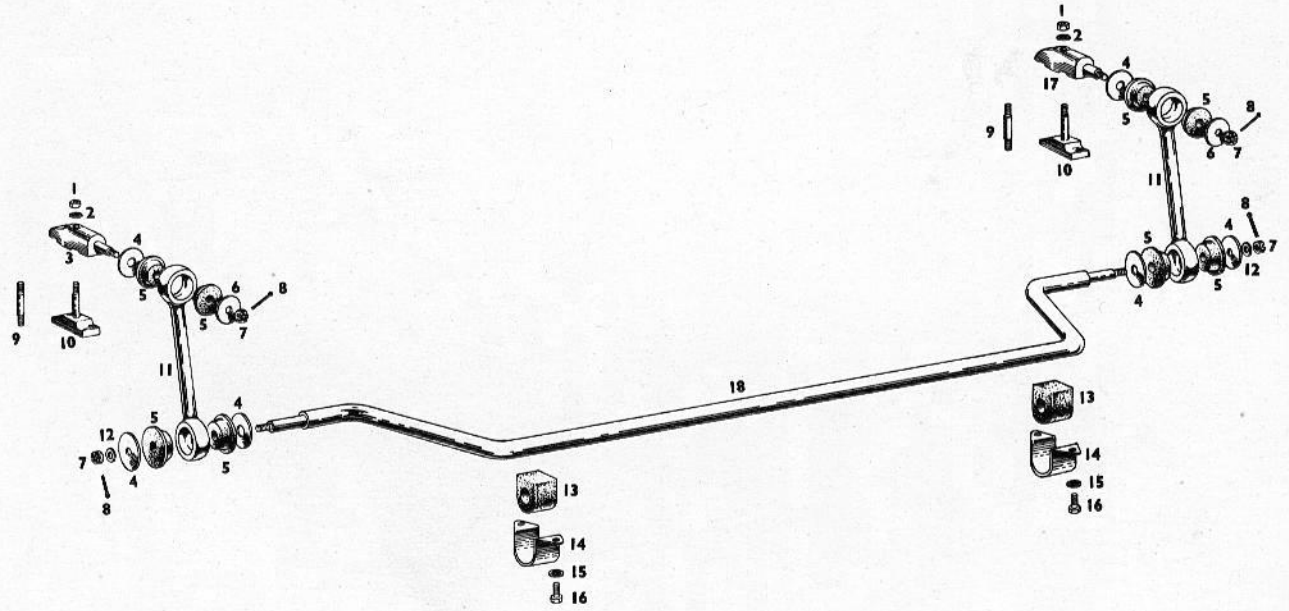
HUB AND STUB AXLE ASSEMBLY R.H. AND L.H.

Part No.	Item	Description	No. off per car	Part No.	Item	Description	No. off per car
N.421141	1	Dust Cap	2	404-1-23035	18	Steering Arm L.H.	1
405-1-23036	2	Gasket - Dust Cap	2	404-1-23036	-	Steering Arm R.H.	1
404-1-23046	3	Nut-Hub Retaining	2	N.421201	19	Shim .010 thickness	as reqd
-	4	Split Pin 1/8" dia. x 1" long	2	N.421211	20	Shim .005 thickness	as reqd
404-1-23047	5	Washer - Hub Retaining Nut	2	N.722011	21	Bottom Bracket L.H.	1
404-1-23049	6	Outer Taper Roller Bearing	2	N.722012	-	Bottom Bracket R.H.	1
404-1-23056	7	Wheel Hub complete with Studs	2	N.421281	22	Tabwasher	2
404-1-23041	8	Wheel Stud	10	FN.109/K	23	Nut 9/16" BSF	2
FN.208/K	9	Nut ½" BSF	10	N.421921	24	Bottom Pin	2
N.721009	10	Inner Taper Roller Bearing	2	N.422071	25	Gaiter for Radius Arm R.H.	1
404-1-23045	11	Oil Seal	2	N.422101	-	Gaiter for Radius Arm L.H.	1
FN.110/K	12	Nut 5/8" BSF	2	-	26	Split Pin 3/32" dia. x 1¼" long	4
N.421271	13	Tabwasher	2	FN408/K	27	Nut ½" BSF Slotted	4
N.421191	14	Thrust Washer	2	404-1-23016	28	Top Pin	2
404-1-23021	15	Bush for Stub Axle	4	404-1-23026	29	Bush - Swivel Pin	4
404-1-23052	16	Stub Axle L.H. complete with Bushes	1	404-1-23019	30	Swivel Pin L.H. complete with Bushes	1
404-1-23053	-	Stub Axle R.H. complete with Bushes	1	404-1-23020	-	Swivel Pin R.H. complete with Bushes	1
N.422291	17	Key	4				



ANTI ROLL BAR.

Part No.	Item	Description	No. off per car	Part No.	Item	Description	No. off per car
FN.106/L	1	Plain Nut 3/8" BSF	2	N.704157	10	Clamping Plate complete	2
-	2	Shakeproof Washer 3/8"	2	N.704169	11	Tie - Rod	2
N.704173A	3	Clamp LH	1	-	12	Plain Washer 3/8"	2
N.704167	4	Washer - Large	4	404-1-20152	13	Rubber Bearing	2
N.704168	5	Harrisflex Bearing CW932	8	N.704156	14	Bearing Clamp	2
N.704170	6	Washer - Small	4	-	15	Shakeproof Washer 5/16"	4
FN406/L	7	Slotted Nut 3/8" BSF	4	FS105/5D	16	Setscrew 5/16" BSF x 5/8" long	4
-	8	Split Pin 1/16" dia. x 1¼" long	4	N.704173B	17	Clamp RH	1
N.704159	9	Stud	2	404-1-20151	18	Anti-Roll Bar	1



Front Suspension

General Data

Type.	Independent Transverse leaf spring with direct acting telescopic shock absorbers. Anti-roll bar fitted.
Tracking.	Toe-in 1/8 to 3/16 inch. (3.18 to 4.76 m/m) measured at the rims at kerb side weight.
Camber angle.	0^{o} at kerb weight. (not adjustable).
End float of swivel pin.	.000 to .003 inch. (.000 to .08 m/m) adjusted by shims.
Diametral clearance of swivel pin.	.0002 to .002 inch (.0005 to .05 m/m).
Torque loading of swivel pin nut.	40 to 50 lb.ft. (59.52 to 74.41 Kg/m).
End float of Front Spring eye in bottom bracket	.000 to .007 inch (.000 to .18 m/m).
Diametral clearance of bottom pin in spring bush.	.0012 to .0042 inch (.03 to .1 m/m).
Torque loading of steering arm securing nut.	50 to 60 lb.ft. (74.41 to 89.29 Kg/m).
Diametral clearance of Top pin in Radius Arms and Swivel Pin Bush.	.0005 to .0025 inch. (.013 to .07 m/m).
Torque loading of front spring anchorage nuts.	38 to 42lb.ft. (57.55 to 62.5 Kg/m).
End float of suspension bracket fulcrum pin.	.002 to .004 inch (.05 to .10 m/m).

Front Suspension

This is shown in Plan and Front View with sections of the spring clamping in Fig.104.

The parts normally requiring attention for the maintenance of the front suspension and hub and stub axles are the swivel pins, the top and bottom pins, the bearings and oil seal of the hubs, and the suspension bracket assembly.

Hub and Stub Axle Assembly

This assembly shown in Fig.105 can be detached completely from the front suspension.

Jack up the front of the car and support on chassis stands. Remove the road wheel.

Disconnect the flexible brake pipe at the backplate and disconnect the 'One-Shot' flexible pipe from the stub axle. Remove all the gaiters.

Break the taper joint connecting the steering tie tube to the steering arm using extractor TFN.5006.

Remove the bottom pin connecting the bottom bracket to the front spring eye and the bolt connecting the telescopic shock absorber to the bottom bracket.

Remove the top pin connecting the swivel pin to the radius arms and withdraw the whole assembly.

Swivel Pins

The diameter of the pin is .799 - .0005 inch and if worn badly it should be replaced. If not worn badly the phosphor bronze bushes can be replaced, if necessary. New swivel pins are provided with the bushes and are reamed to size.

To replace the bushes, drive the old ones out and press in the new bushes. Ream to give the clearance of .0005 to .0025 inch for the top pin and face to the dimension shown in Fig.106.

Stub Axle

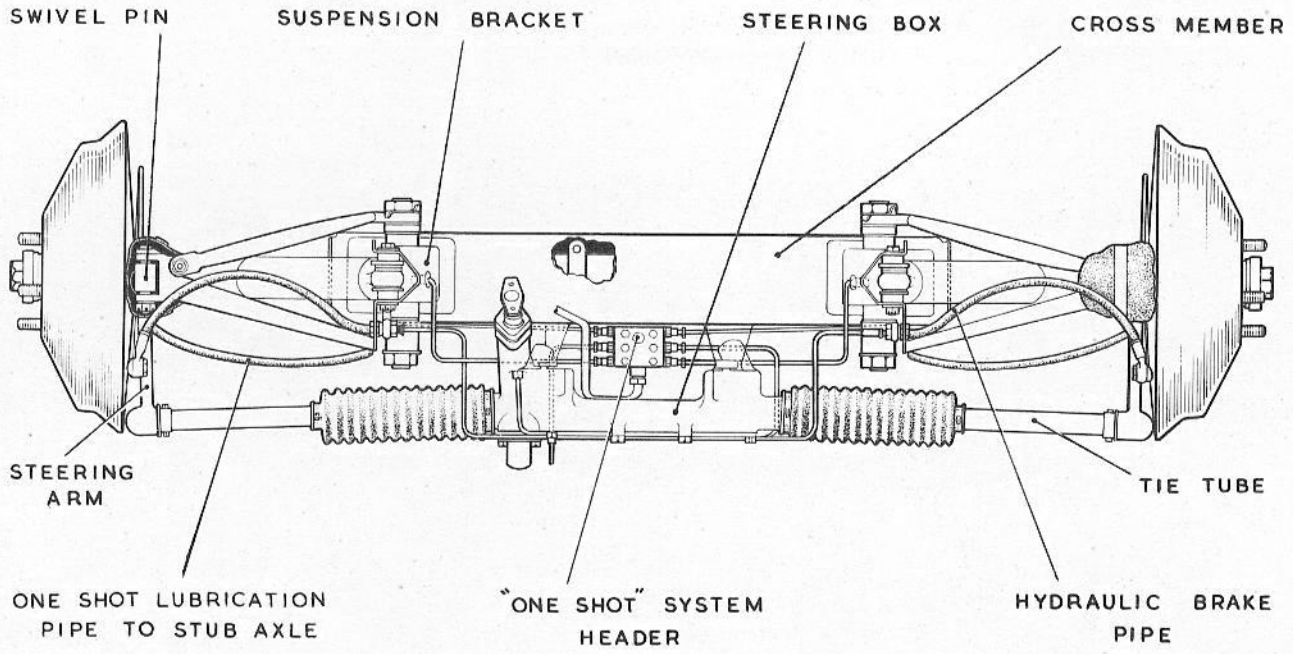
To remove the refit the phosphor bronze bushes in the stub axle, drive out the worn bushes.

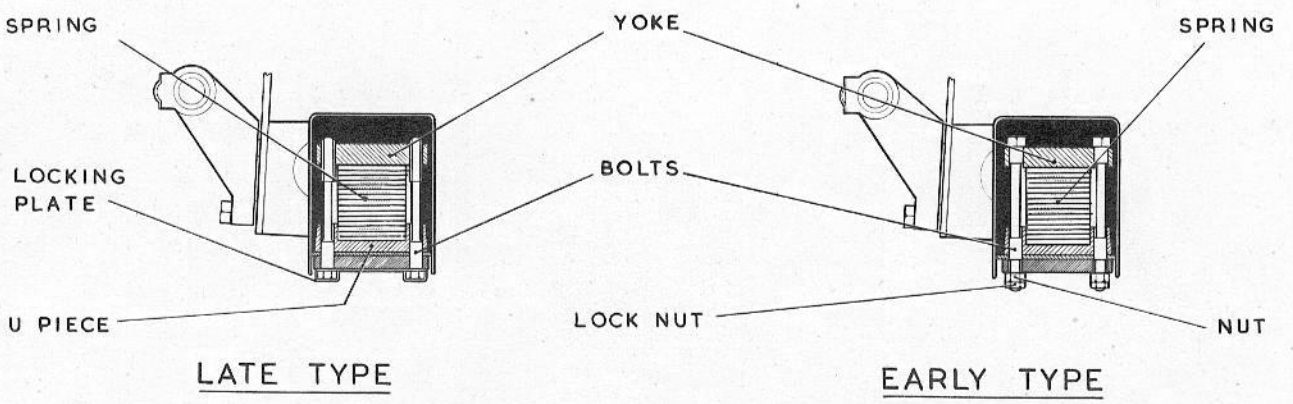
Press in the new bushes until level with the face. The chamfered end of each bush should be entered first to ensure that the spiral oil groove is fitted correctly.

In manufacture a special reamer TFN.4578 is used to line ream the bores to accept the swivel pin. In the absence of a suitable reamer the bores should be scraped to give the clearance of .0002 to .002 inch for the swivel pin.

Front Transverse Spring Bushes

Drive out the existing phosphor bronze bushes and press in the replacement bushes.





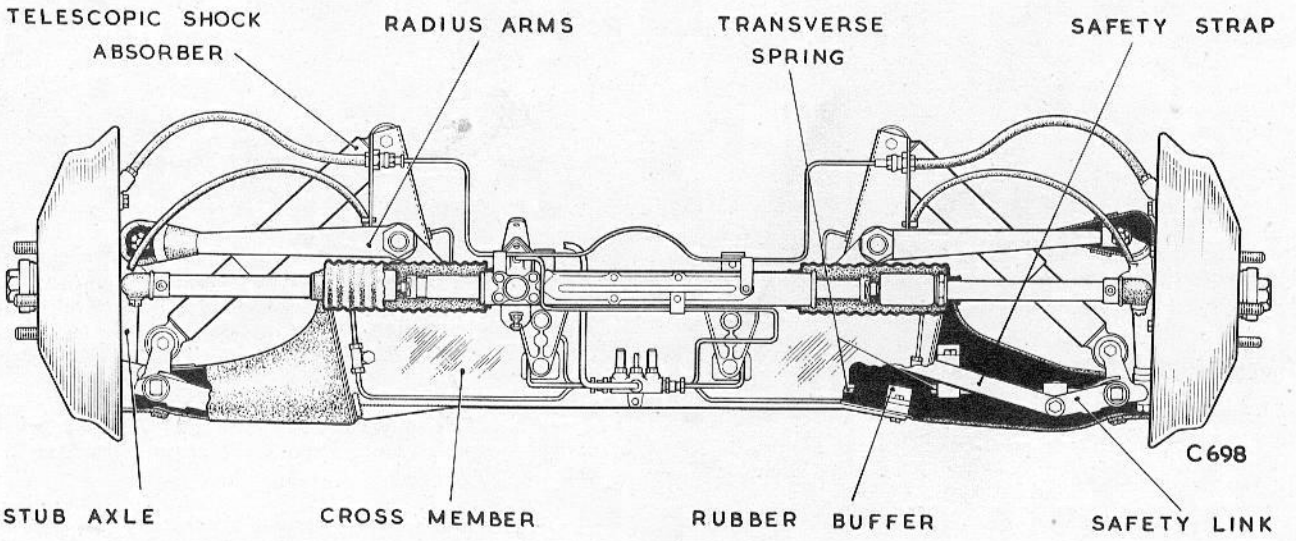


Fig. 104. G.A. views with spring clamping

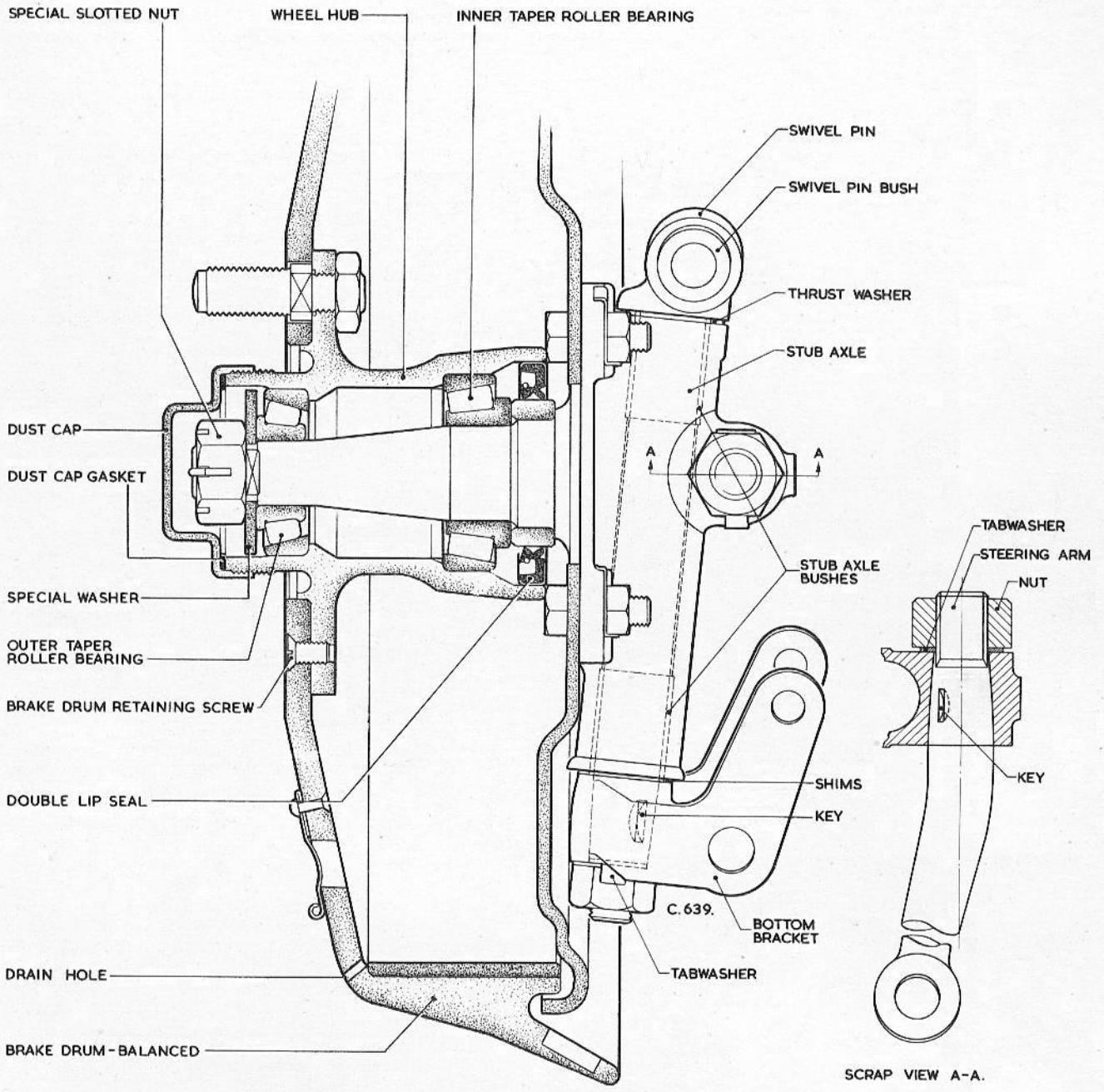


Fig. 105. Hub and stub axle assembly

Ream to give the clearance of .0012 to .0042 inch for the bottom pin.

Bottom Brackets

These brackets are not bushed and if the bores for the location of the bottom pins or telescopic shock absorber should be worn they should be replaced.

To Re-assemble the Swivel Pin to the Stub Axle

Fit the thrust washer to the swivel pin with the inner chamfer directly beneath the head of the pin. Well oil the swivel pin and position it in the stub axle. Disregard the shims and key fit the bottom bracket and the nut and tighten.

With feeler gauges determine the end float of the swivel pin and deduct from it the permissible end float of .000 to .003 inch.

Remove the nut and bottom bracket and fit the predetermined thickness of shims. Fit the key, refit the bottom bracket, fit a tabwasher and the nut. Tighten the

nut to a torque loading of 40 to 50 lb.ft. and recheck the end float. If satisfactory lock the tabwasher.

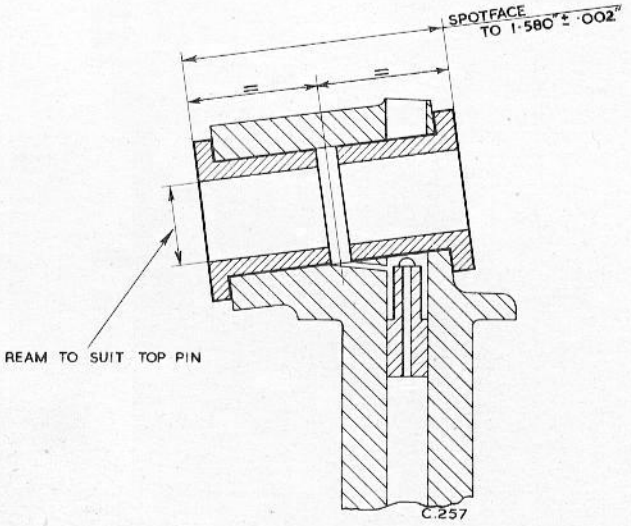


Fig. 106. Swivel pin bush dimension

To Replace the Roller Races or Oil Seal in the Hub

Refer to Fig105for this assembly.

Remove the brake drum which is held in position by the two 5/16 countersunk head screws, then remove the dust cap, which has a right hand thread, and its gasket.

Withdraw the split pin and remove the slotted nut and washer. Fit the hub extractor Fig107and withdraw the hub together with the front taper roller bearing and the outer race of the rear bearing.

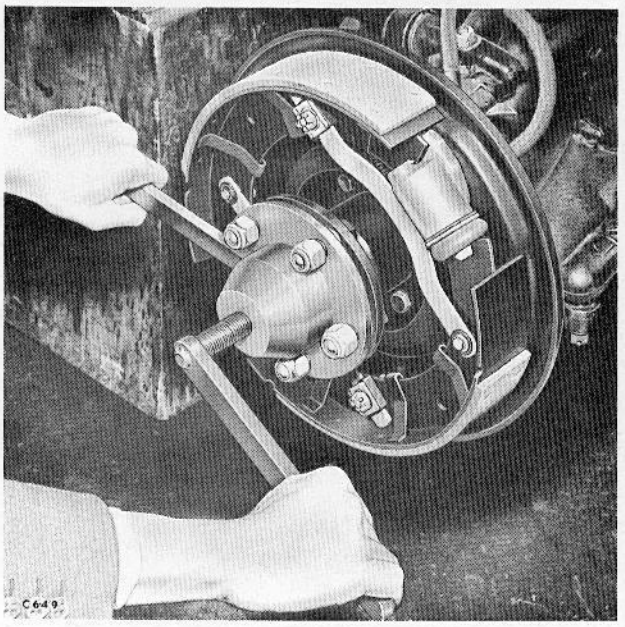


Fig. 107. Extracting front hubs

It is possible that the oil seal is tight enough to withdraw the roller race entirely as it is only a push fit on the stub axle.

The oil seal will be unfit for further use and can be prised off.

Should the inner race still be on the axle and difficult to remove then the procedure is as follows.

Break up and remove the rollers of the race. Remove the bolts attaching the backplate and remove the backplate. With a tool, similar to a caulking tool, drive the inner race from its location. It will be useless for further use.

Care should be taken not to drive off or interfere with the hardened oil seal location on the stub axle which is a permanent fitting.

Finally press the outer races from the hub.

To Refit the Hubs

First check the diameter of the location of the inner roller race on the stub axle. This should be 1.1805 to 1.1800 inch and will allow the inner roller race to press on without force.

Fit the outer cages of the bearings to the hub, thoroughly grease the rollers and inner race of the inner bearing and position in the hub. Press the oil seal into the hub and fill the inner groove with graphite grease.

If the brake backplate has been removed bolt it into position, and lock with the tabwashers.

Fit the hub over the shaft, locate the bearing then push and turn the hub until the bearing and oil seal are in position.

Pack the hub three quarters full with specified hub grease. Thoroughly grease the inner race and rollers of the outer bearing and press into position on the shaft.

Fit the special washer followed by the nut. Tighten the nut to ensure that the rear bearing is fully home and then slacken off to give a clearance of .001 to .003 inch (while spinning the brake drum) before fitting the split pin. The fine thread and the two positions for the split pin should allow close adjustment.

Fit and tighten the dust cap with its gasket, but do not fill the dust cap with grease as the tightening of the cap could force the grease past the oil seal.

Refit the brake drum.

Brake Drums

Brake drums are located by the centre bore which fits the spigots of the front hub and by the five holes which fit the plain portion of the wheel stud.

They are readily removed by unscrewing the two 5/16 countersunk screws which attach the drum to the hub.

Although the drums are carefully balanced individually and are fully interchangeable it is recommended that they are refitted to their original positions.

Suspension Bracket Assembly

This is the top joint of the radius arms shown in section in Fig.108and it is controlled for end thrust by selective thrust washers.

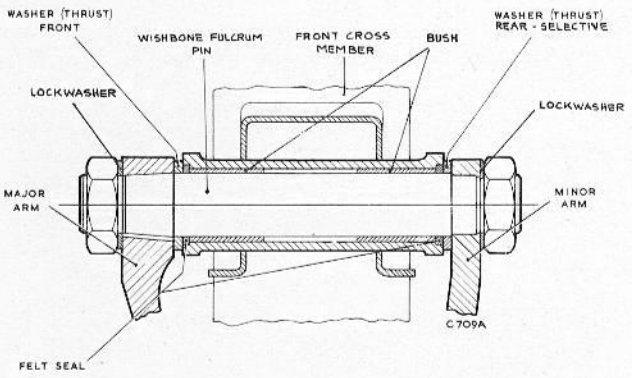


Fig. 108. Suspension bracket assembly

On early cars it is necessary to cut the valance away to allow access for the spanner to the thin nuts. On later cars this was made accessible.

To adjust the end float jack up the car and support the front on chassis stands. Remove the road wheels.

Remove the gaiters protecting the top swivel pin joint to the radius arms and remove the top pin. Release the clamps attaching the anti-roll bar and remove the 3/8" bolt connecting the minor arm to the major arm thus allowing the arms to become free.

The end float permissible at the suspension bracket attachment is .002 to .004 inch and before slackening it is advisable to check the actual end float. From this a suitable thrust washer can be selected. Check the tightness of the front nut.

Release the lockwasher and slacken off the rear thin nut. In order to release the thrust washer, the spindle and its major arm must be pushed forward to provide clearance for the removal of the nut and minor arm.

Remove the rear thrust washer and measure the thickness. Thrust washers are available in the following sizes, .115, .120, .125, .130, .135, .140, .145, .150, .155, .160, .163, .167. Having previously taken the end float a suitable thrust washer can be selected.

To re-assemble fit the thrust washer, the inner arm, the lockwasher and the thin nut by pushing the spindle rearwards. Tighten the nut and check the end float.

If satisfactory lock the nut, reconnect the minor arm to the major arm, and the anti roll bar clamp. Fit the top pin and gaiter and finally fit the road wheel.

Front Transverse Leaf Spring

To remove the front transverse spring first keep the car on the wheels, remove the gaiters and remove the rubber blocks and any packing pieces each end of the front cross member. These blocks were not fitted to early Type 404 cars.

Raise the front of the car and support on chassis stands, then remove the front wheels and stub axle assemblies as described.

Referring to Fig.104 it will be noted that the spring clamping is of two types, on the earlier cars it will be necessary to remove the front engine mounting bolts and lift the engine sufficiently to withdraw the spring clamping bolts from the top. On later cars this is not necessary as the locking tabs will be turned back and the bolts withdrawn downwards.

Remove the yokes from the top of the spring inside the cross member. Lift the spring from its centre bolt spigot location in the cross member and withdraw it from one side or the other.

To Refit the Spring

Fit the spring into the cross member and locate on its centre bolt spigot locations.

Locate one of the 'U' pieces and a top yoke and loosely screw in two bolts to retain them. Fit the other 'U' piece and yoke and screw in the remaining two bolts. On the later type of clamping fit the two locking plates. Tighten all of the bolts with the centre spigot located but do not tighten them fully or lock them.

If the engine has been lifted, lower it and refit the engine mounting bolts.

Refit the stub axle assemblies and the front wheels.

Lower the car to the ground and tighten the spring clamping bolts to 38 to 42 lb.ft. Lock them with the locking plate or lock nuts, as applicable.

Refit the rubber buffers and packing pieces which were removed and finally refit the gaiters.

End Float—Front Spring Eye to Bottom Bracket

See Fig.109 The permissible end float at this point is .000 to .007 inch and this is controlled by hardened selective thrust washers in .105, .113, .120, .127, .134 thicknesses.

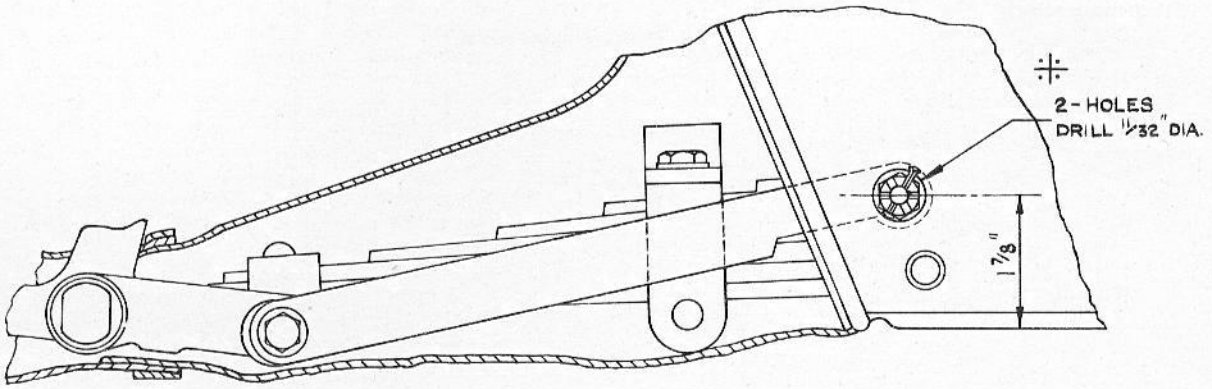
Select a washer to give the correct clearance and using the thread protector and lead-in TFN.5001 insert the bottom pin from the front, locating it on its flat, then tighten the nut and lock with a split pin.

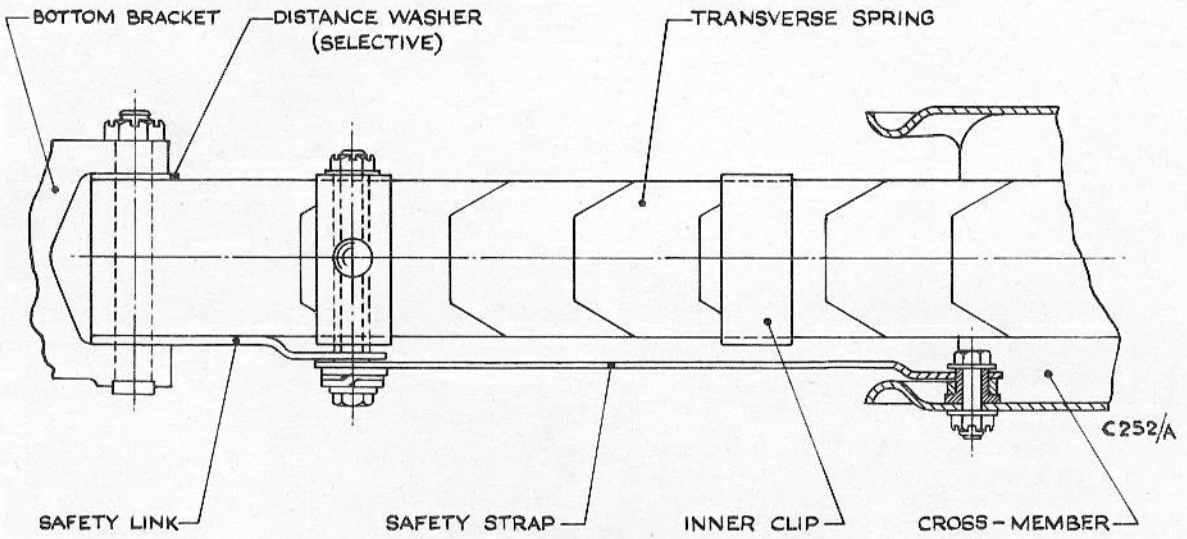
It is recommended that the bottom pin is inserted with a lead-in otherwise the hardened bottom pin will shear any slight mis-alignment of the phosphor bronze bush in the spring eye.

Safety Straps

Referring to Fig 109the safety straps retain the wheels in position in the event of front spring leaf failure.

Two important points should be noted. The attachment bolt of the safety strap to the cross member cannot be fitted when the front spring is clamped in the cross member. It must therefore be inserted at an early stage.





INSTRUCTIONS FOR FITTING SAFETY STRAP N 422831 A/B
2 HOLES TO BE DRILLED IN CROSS MEMBER N 422501
TO GIVE THE FOLLOWING CONDITIONS :-
1. WHEN TRANSVERSE SPRING IS IN STATIC POSITION THERE SHOULD BE 1/16" CLEARANCE BETWEEN END OF SLOT IN N 422831 A & B SAFETY STRAP AND 5/16" BOLT ON THE INSIDE (I.E. TOWARDS THE VERTICAL ℄ OF CROSS - MEMBER.)
2. WHEN TRANSVERSE SPRING IS FREE (UNLOADED) THERE SHOULD BE 1/16" CLEARANCE BETWEEN OUTER END OF SLOT AND BOLT.

Fig. 109. Safety strap and link attachment

A new front cross member is not drilled for the safety strap attachment as the 1/16 inch clearance at either end of the elongation in the strap is controlled by certain conditions. For practical purposes these two holes could be drilled in the same position as on the removed cross member.

A check could be taken during road test to ensure that the safety strap elongation has the necessary clearance.

Anti-roll Bar

The anti-roll bar Fig110 is attached to the radius arms and to the chassis frame members. The only maintenance required after considerable service would be the replacement of the rubber bearings. Note that the torque loading of clamping nut to the radius arms is 18lb.ft. (26.78Kg/m).

On every car, however, both the shock absorbers were the same type.

Armstrong. Ref. AT7/1185. Eye fitting at both ends.
Settings (850/75
(75/650

Telaflo. Ref.6-T1-EE. High Duty with Bump Stop. Eye fitting both ends. Open length 17". Closed length (Rubber touching) 11.5/8. Closed length (Rubber compressed) 11.5/16 inch.
Setting. AS. SP.50001.

Girling. Ref. DAS6/154 NF. with Bump Rubbers. Part No. SA/287/1. Eye fitting both ends.

Settings (Bump. 130/15
(Rebound 175/15.

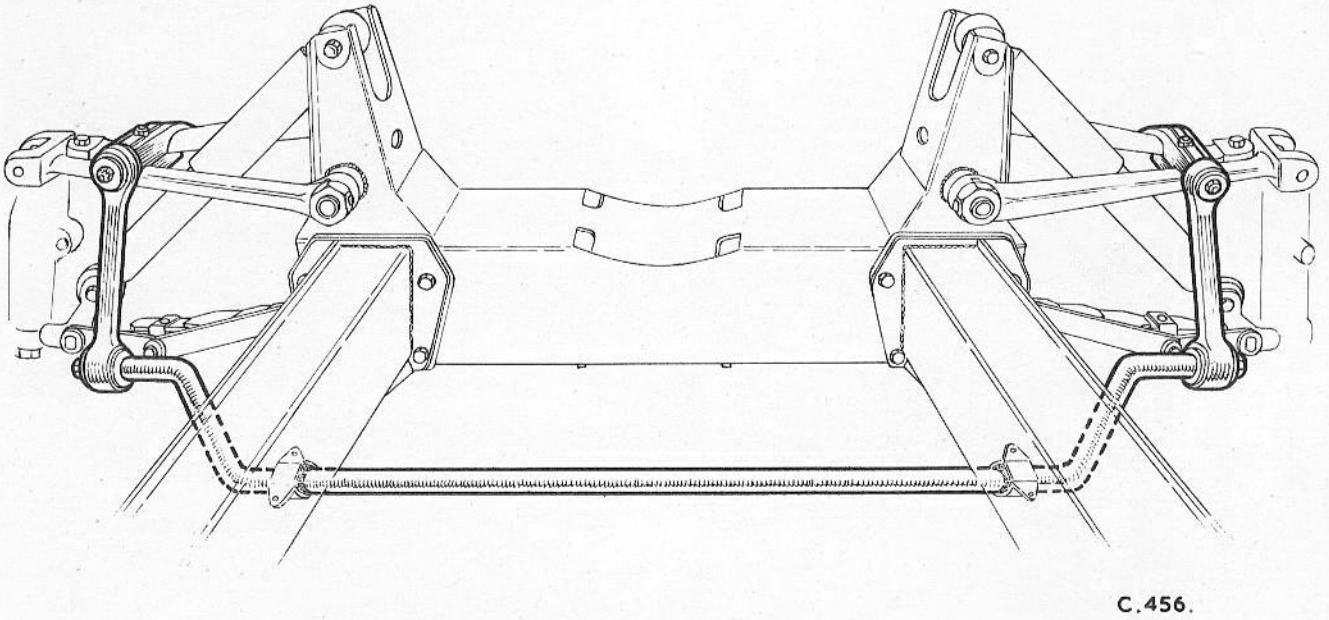


Fig. 110. Anti-roll bar

Steering Arms

The steering arms are right hand and left hand. They locate in a taper keyed hole in the stub axle. See Fig.105

Replacing Wheel Studs

Remove the peening which secures the locknut and remove the nut. The flange is threaded and to avoid damage when unscrewing the stud saw the peened end of the stud away. Screw the stud out carefully.

Screw in the new stud, fit and tighten the locknut and finally peen.

Telescopic Shock Absorbers

On the front suspension of Type 404 Cars, the following types of telescopic shock absorbers were fitted.

The latter shock absorber is fitted to all Type 405 Cars.

Replacements

Should it be considered that a telescopic shock absorber requires replacement a check should first be taken to see that the taper rubbers, two at each end, are in good order and securely fitted. Replacement rubbers are available.

Serviced replacement shock absorbers are normally available from the manufacturers agents.

Removing Shock Absorbers

Jack up the car and support the front with chassis stands. For convenience remove the road wheel.

Working inside the wheel arch disconnect the shock absorber from its attachment to the bottom bracket. See Fig.111

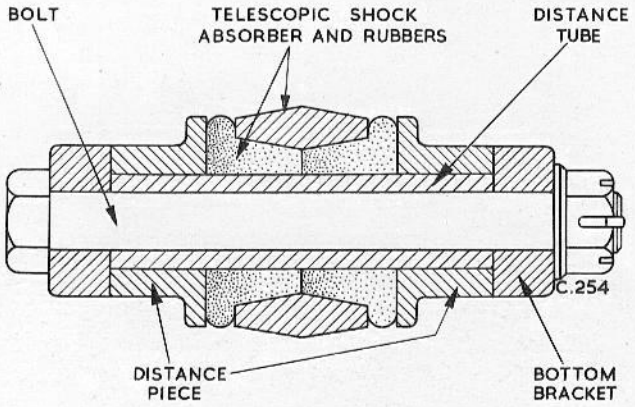


Fig. 111. Shock absorber lower attachment

Working from inside the bonnet disconnect the shock absorber from the suspension bracket see Fig.112 In many instances on the right hand side it is necessary to disconnect the brake pipe at this point to allow for the withdrawal of the bolt. Should this be the case the brake pipe can be immediately reconnected and the bolt inserted the other way round when re-assembled.

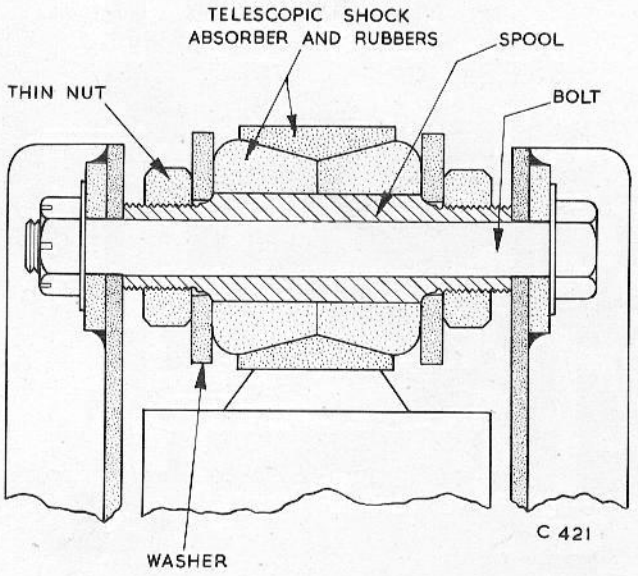


Fig. 112. Shock absorber upper attachment

Refitting Shock Absorbers

Assemble the top eye as shown in Fig.112 Position the shock absorber between the radius arms and position the top location into the suspension bracket.

Assemble the bottom location as shown in Fig.111 and compress to the length of the distance piece to permit entry into the bottom bracket, line up the bolt holes, insert the bolt tighten and split pin.

At the top location fit the bolt from the back end, tighten and split pin.

Removing the Complete Front Suspension Assembly

In the event of damage to the front of car whereby the front suspension needs attention then the whole unit can be detached from the car. If considered necessary it can be sent to the Works for reconditioning and rig testing.

To remove the unit first detach the gaiters at the ends of the front spring and remove any rubber blocks and packing pieces from just inside the front cross member. See location 'M' in Fig.113 These parts can only be removed while the spring is under load.

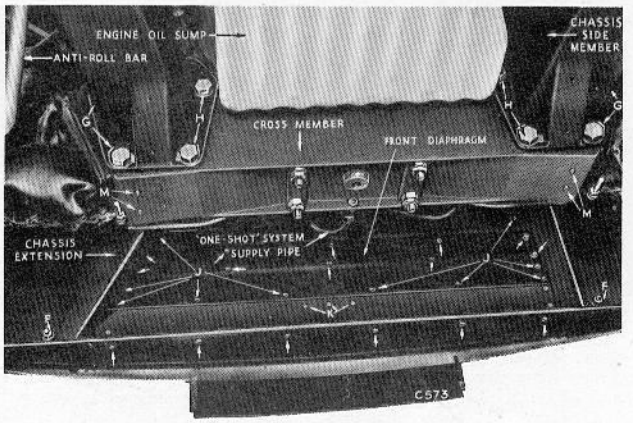


Fig. 113. Removing front suspension assembly

Remove the bonnet, jack up the front of the car and support on chassis stands.

Remove the road wheels.

Disconnect the steering column at the flexible coupling.

Disconnect the clamps attaching the anti-roll bar to the radius arms and disconnect the horns. Remove the bolts 'J' and 'K' and remove the diaphragm and starting handle guide tube.

Remove the Radiator.

Disconnect the 'One-shot' lubrication pipe from the connection on the engine mounting bracket. Detach the brake fluid pipe at the connection 'A' in Fig.114 then unscrew and remove the connection 'B'. This will release the main supply pipe and its banjo 'C'. Holding the connection 'D' Fig.115 unscrew the nut 'E' and withdraw the wheel arch. Detach brake pipe from the other side in a similar manner.

Detach the two bolts 'F' and lift away the front bumper Remove the pipe 'L'.

Referring to the illustrations remove the screw indicated by the arrows.

Support the suspension assembly with a jack.

Remove the two inner bolts shown at 'H' and loosen the bolts at 'G'. Remove the bumper support brackets.

Remove the bolts 'G' and move the whole front sus-

pension forward, then lower the jack and withdraw the assembly clear of the car.

To refit the assembly reverse the order of removal.

When fitting the front cross member securing bolts use the following procedure.

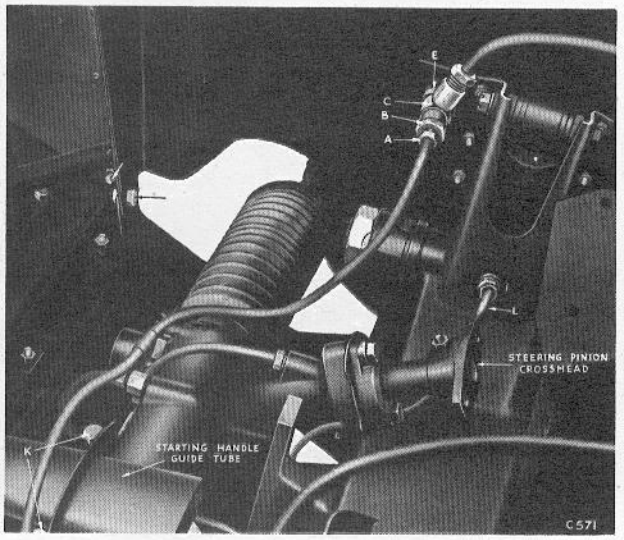


Fig. 114. Removing front suspension assembly

With a plain washer fitted beneath the head enter the two long bolts (the outer bolt from the front and the inner from the rear) through the two upper securing bolt holes on each side of the cross member and the front flange of each chassis side member. Fit a washer and the nut (finger tight).

Fit tabwashers and screw the four bolts in from the rear.

Tighten all nuts and bolts securely, lock the nuts with split pins and the bolts with the tabwashers.

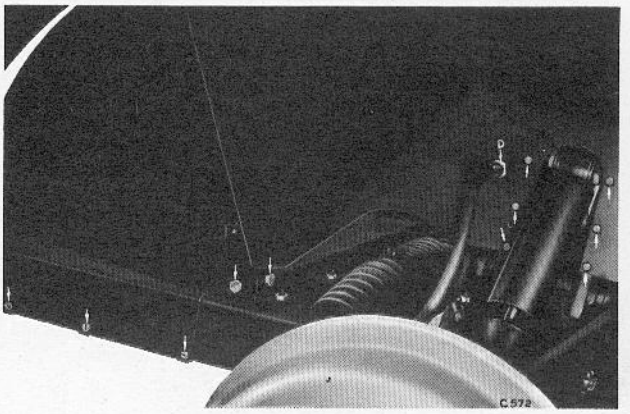


Fig. 115. Removing front suspension assembly