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HUDSON-ESSEX

Service Manual

1927 Supplement

(Cars numbered 500,001 and upward)

ESSEX

(Cars numbered 500,001 and up)

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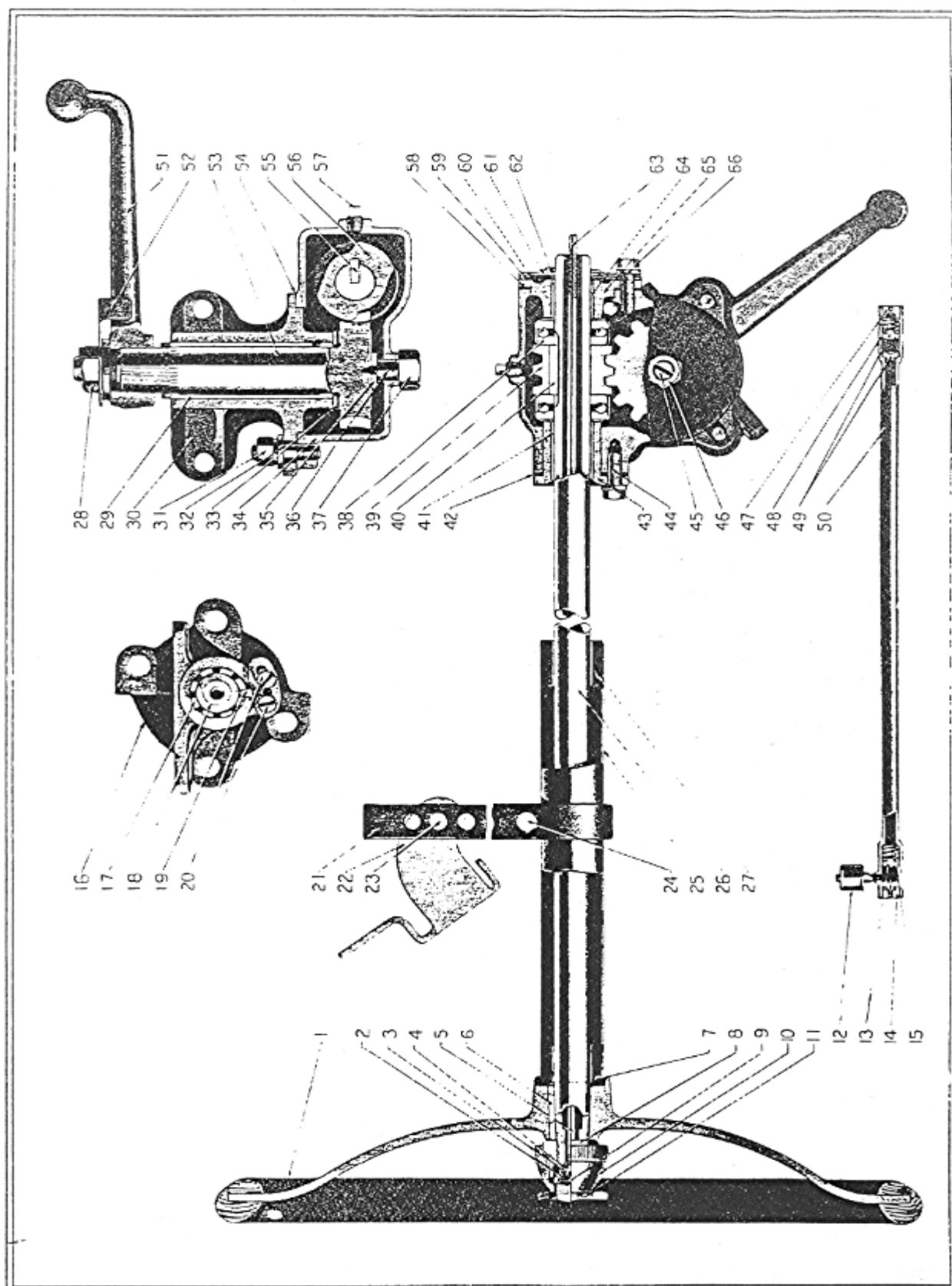
Motor Group
(See 1926 Service Manual, page 147)

Essex Super Six

Steering Gear

(Cars numbered 500,001 and upward)

(Cars numbered 500,001 and upward)



Essex Super Six Steering Gear

(Cars numbered 500,001 and upward)

Ref. No.	Name of Part	Ref. No.	Name of Part
1.	Steering wheel	34.	Steering gear case
2.	Horn button spring	35.	Worm wheel thrust washer-small
3.	Horn wire ground washer	36.	Worm wheel adjusting screw
4.	Horn wire terminal insulator	37.	Worm wheel adjusting screw lock nut
5.	Horn wire	38.	Thrust bearing
6.	Steering wheel key	39.	Steering worm
7.	Jacket tube bushing	40.	Steering worm key
8.	Steering wheel nut	41.	Upper cap bushing
9.	Contact washer	42.	Upper cap shims
10.	Steering wheel nut cover	43.	Upper cap
11.	Horn button	44.	Upper cap bolt
12.	Drag link oiler	45.	Worm wheel adjusting screw
13.	Drag link ball seat	46.	Worm wheel adjusting screw lock nut
14.	Drag link plug	47.	Drag link plug
15.	Drag link spring	48.	Drag link spring
16.	Steering gear frame bracket	49.	Drag link ball seat
17.	Worm wheel eccentric bushing	50.	Drag link
18.	Worm wheel and shaft	51.	Steering gear arm
19.	Eccentric bushing lock plate	52.	Worm wheel shaft nut lock
20.	Lock plate screw	53.	Worm wheel and shaft
21.	Jacket tube bracket	54.	Steering gear case gasket
22.	Cowl bracket	55.	Steering worm key
23.	Cowl bracket bolt	56.	Steering worm
24.	Jacket tube bracket bolt	57.	Steering gear case plug
25.	Jacket tube	58.	Lower cap gasket
26.	Steering column	59.	Column felt washer plate gasket
27.	Jacket tube bushing	60.	Column felt washer plate
28.	Worm wheel shaft nut	61.	Felt washer retainer
29.	Worm wheel eccentric bushing	62.	Felt washer
30.	Steering gear frame bracket	63.	Horn wire
31.	Case cover stud nut	64.	Lower cap bushing
32.	Case cover stud -	65.	Lower cap
33.	Worm wheel thrust washer-large	66.	Lower cap screw

(1-A) Renew Complete Steering Gear

(Cars numbered 500,001 and upward)

1. Disconnect at horn terminal, wire (63) leading from steering gear horn button to horn.
2. Unscrew cover (10).
3. Remove steering wheel nut (8) from top of steering column and pull off steering wheel, using wheel puller shown on Page 18, Service Tool section.
4. Remove cowl bracket bolt (23); disconnect jacket tube bracket (21) and slide jacket tube assembly off steering column.
5. Remove 2 bolts securing steering gear frame bracket (30) to frame side member. This will release steering gear assembly.
6. Bend back ears on worm wheel shaft nut lock (52); remove nut (28) and nut lock and pull steering gear arm (51) off shaft using steering gear arm puller shown on Page 18, Service Tool section.
7. Remove steering gear assembly from car and install new part, reversing above operations.

(1-B) Renew Case Bushings, Thrust Washers, Column, Worm, Worm Wheel or Thrust Bearings

(Cars numbered 500,001 and upward)

1. Disconnect at horn terminal, wire (63) leading from steering gear horn button to horn.
2. Unscrew cover (10).
3. Remove steering wheel nut (8) from top of steering column and pull off steering wheel, using wheel puller shown on Page 18, Service Tool section.
4. Remove cowl bracket bolt (23); disconnect jacket tube bracket (21) and slide jacket tube assembly off steering column.
5. Remove 2 bolts holding steering gear frame bracket (30) to frame side member. This will allow steering gear assembly to be removed from the car.
6. Bend back ears on worm wheel shaft nut lock (52); remove nut (28) and nut lock and pull steering gear arm (51) off shaft, using steering gear arm puller shown on Page 18, Service Tool section.
7. Remove screws (44) holding upper cap (43) in position; take out cap and shims (42).
8. Remove screws (66) holding lower cap (65) to case; take off lower cap, column, worm, and thrust bearings.
9. The bushings (41, 64) in the upper and lower caps may now be pressed out in an arbor press, or by means of the bushing press shown on Page 13, Service Tool section, and replaced with new parts.
10. Remove 4 nuts (3 1) holding frame bracket to steering gear case; take off frame bracket, worm. wheel and thrust washer.
11. Remove worm wheel bushing (29) and replace with new part.
12. Where replacement is necessary, renew column, worm, thrust bearings, worm wheel or any other parts contained in the case assembly. Reassemble steering gear, reversing above operations, making sure that adjustments are properly made as covered in articles (E), (F) and (G).

(1-C) Renew Jacket Tube Bushings

(Cars numbered 500,001 and upward)

1. Disconnect at horn terminal, wire (63) leading from steering gear horn button to horn.
2. Unscrew cover (10).
3. Remove nut (8) from top of steering column.
4. Pull steering wheel off taper on steering column, using steering wheel puller shown on Page 18, Service Tool section.
5. Remove cowl bracket bolt (23) holding jacket tube bracket (21) to cowl.
6. Slide jacket tube and bracket off column, press out or drive out old bushings (7, 27) and replace with new parts.
7. Reassemble parts, reversing above operations.

(D) Renew Steering Gear Lever

(See 1926 Service Manual, Page 108)

(E) Adjust Column for End Play

(See 1926 Service Manual, Page 108)

(F) Adjust Worm Wheel and Shaft for End Play

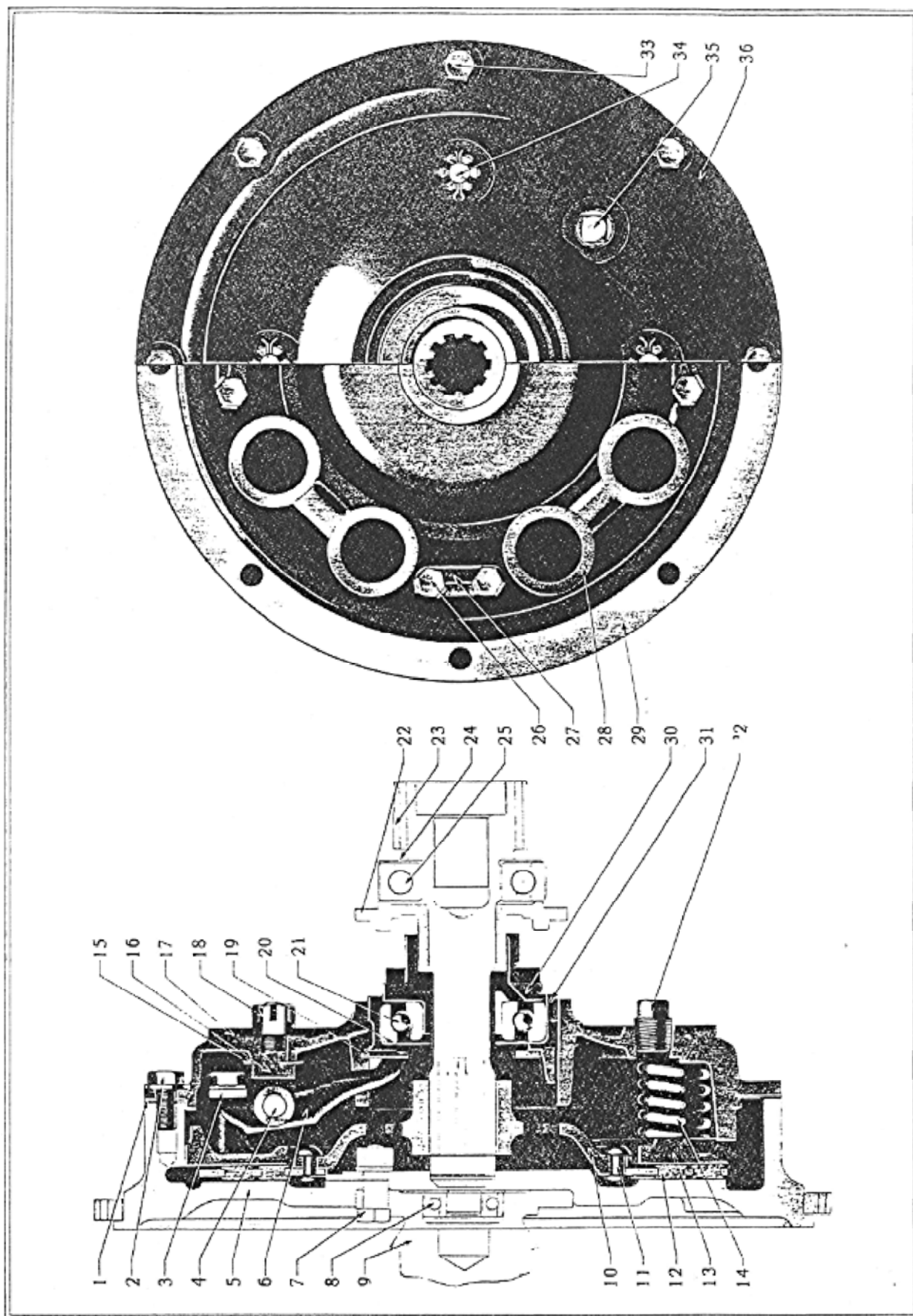
(See 1926 Service Manual, Page 108)

(G) Adjust Worm Wheel and Shaft for Backlash

(See 1926 Service Manual, Page 108)

Essex Super Six Clutch

(Cars numbered 500,001 and upward)



Essex Super Six Clutch

(Cars numbered 500,001 and upward)

Ref. No.	Name of Part	Ref. No.	Name of Part
1.	Clutch cover gasket	19.	Throwout cross
2.	Clutch cover cap screw	20.	Clutch thrust bearing oil ring
3.	Shifter finger lock plate	21.	Clutch thrust bearing
4.	Shifter finger pin	22.	Transmission front bearing cap
5.	Flywheel	23.	Transmission mainshaft drive gear
6.	Shifter finger	24.	Transmission front cap bearing oil seal
7.	Flywheel bolt	25.	Transmission mainshaft drive gear bearing
8.	Clutch pilot bearing	26.	Pressure plate cap screw
9.	Crankshaft	27.	Pressure plate screw lock
10.	Clutch driving plate	28.	Pressure plate
11.	Driving plate rivet	29.	Flywheel
12.	Driving plate cork insert	30.	Clutch thrust bearing retainer
13.	Pressure plate	31.	Clutch shifting sleeve
14.	Clutch spring	32.	Clutch cover pipe plug
15.	Shifter finger bracket gasket	33.	Clutch cover cap screw
16.	Shifter finger bracket	34.	Shifter finger bracket
17.	Clutch cover	35.	Clutch cover pipe plug
18.	Shifter finger bracket nut	36.	Clutch cover

(1-A) Renew Clutch Assembly, Driving Plate, Pressure Plate, Thrust Bearing, Bearing Retainer, Pilot Fearing, Shifter Fingers, Springs or Shifter Finger Brackets

(Cars numbered 500,001 and upward)

1. Remove front compartment rubber and felt mats and take out front toe and floor boards.
2. Remove clevis pin at bottom of brake pedal and disconnect brake pull rod.
3. Remove clevis pin from clutch adjustable link and disconnect clutch throwout yoke.
4. Unscrew sleeve at rear end of speedometer shaft and disconnect shaft.
5. Remove bolts from front universal joint flange and disconnect propeller shaft.
6. Remove cap screws holding transmission cover and control lever to transmission and take off control assembly.
7. Remove bolts holding pedal control bracket to transmission and take off pedal control assembly.
8. Unscrew exhaust manifold packing nut at rear end of exhaust manifold.
9. Remove two bolts holding front end of muffler to muffler bracket.
10. Loosen bolt clamping front of muffler to exhaust pipe; slide exhaust pipe out of exhaust manifold and turn out of way of transmission.
11. Remove bolts holding flywheel guard to rear motor plate, also remove screw holding rear end of guard to transmission case; take off flywheel guard.
12. Remove two bolts holding lower part of transmission case to rear motor plate.
13. Remove nuts from rear ends of three starter motor studs.
14. Remove nuts from two studs holding transmission to motor; this will allow the transmission to be withdrawn from the clutch and lowered to the floor. The thrust bearing (21), bearing retainer (30), and sleeve (31) can now be removed from the clutch cover hub and renewed if necessary.

Clutch Group

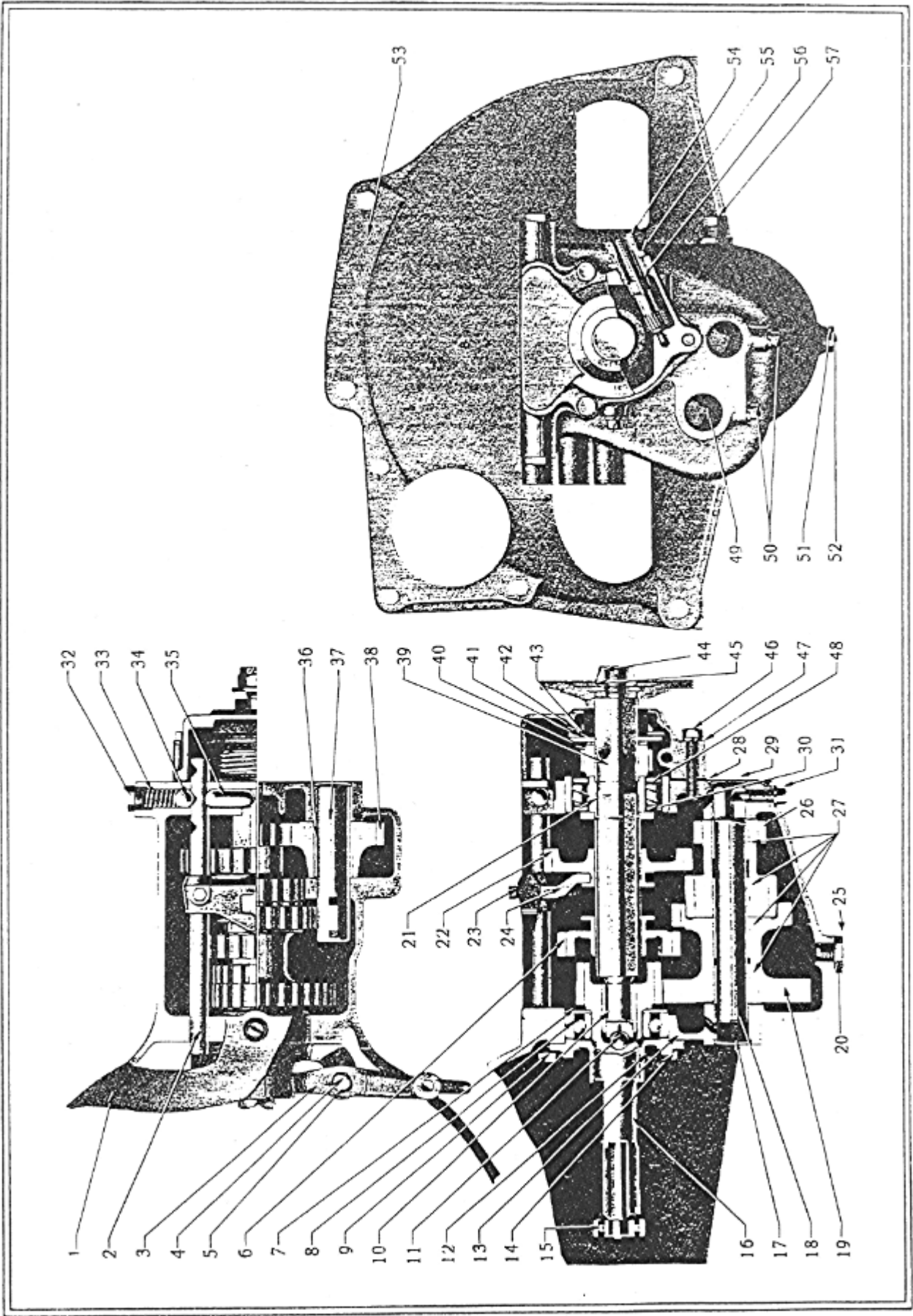
15. Remove cap screws (2) holding clutch cover to flywheel, releasing the clutch assembly and driving plate assembly (10), which parts as well as the pilot bearing (8) may be renewed as required.

16. Should replacement of the cover (36), pressure plate (13), springs (14), shifter finger brackets (16), gasket (15), shifter finger (6), or throwout cross (19), be necessary, the clutch should be mounted in the clutch assembling fixture "HE-130" shown in the Service Tool section, and disassembled by removing the cotter pins and castle nuts (18) from the shifter finger brackets (16)

17. After all of the parts requiring renewal have been replaced, the clutch is reassembled by reversing the above operations, using clutch assembling fixture.

Essex Super Six Transmission

(Cars numbered 500,001 and upward)



Essex Super Six Transmission

(Cars numbered 500,001 and upward)

Ref. No.	Name of Part	Ref. No.	Name of Part
1.	Transmission case	30.	Mainshaft rear bearing retainer
2.	Shifter shaft-second and high	31.	Countershaft lock screw
3.	Clutch throwout yoke	32.	Shifter shaft lock spring cap
4.	Clutch throwout yoke clevis pin	33.	Shifter shaft lock spring
5.	Clutch throwout yoke bushing	34.	Shifter shaft lock ball
6.	Second and high speed gear	35.	Shifter shaft interlock plunger
7.	Drive gear bearing oil seal	36.	Reverse idler gear bushing
8.	Mainshaft drive gear outer bearing	37.	Reverse idler gear shaft
9.	Front bearing cap bolt	38.	Reverse idler gear
10.	Mainshaft drive gear bushing	39.	Mainshaft
11.	Mainshaft thrust ball	40.	Speedometer drive gear
12.	Frofit bearing cap	41.	Mainshaft rear bearing steel washer
13.	Front bearing cap gasket	42.	Mainshaft rear bearing bronze washer
14.	Front bearing cap bolt	43.	Mainshaft shim
15.	Clutch pilot bearing	44.	Mainshaft nut
16.	Mainshaft drive gear	45.	Mainshaft nut washer
17.	Countershaft welch,plug	46.	Mainshaft rear, bearing cap bolt-long
18.	Countershaft	47.	Mainshaft rear bearing cap
19.	Countershaft drive and second speed gear	48.	Mainshaft rear bearing
20.	Oil drain plug gasket	49.	Reverse idler gear shaft welch plug
21.	Rear bearing inner sleeve	50.	Countershaft and idler shaft lock screws,
22.	Mainshaft low and reverse gear	51.	Oil drain plug gasket
23.	Shifter fork lock screw	52.	Oil drain plug
24.	Shifter fork	53.	Transmission case
25.	Oil drain plug	54.	Speedometer driven gear sleeve
26.	Countershaft low and reverse gear	55.	Speedometer driven gear sleeve shim
27.	Countershaft gear bushing	56.	Speedometer driven gear
28.	Mainshaft rear bearing cap gasket	57.	Oil level test plug
29.	Countershaft welch plug		

NOTE: In all operations where it is necessary to adjust the mainshaft for end play, it is important that from .003 to .006 end play be allowed. On cars previous to 500,001 a greater end play of .008 to .012 was necessary because the thrust was greater on the transmission thrustwashers and it required this amount of end play to insure their proper lubrication. When referring back, therefore, to operations described in the 1926 Service Manual and applying these operations to cars 500,001 and upward, use the figure .003 to .006 for end play instead of the figure .008 to .012. Also note where reference is made to operations in the 1926 Service Manual to be used on cars 500,001 and upward it is not necessary to disconnect the brake pull rod at the bottom of the hand brake lever, as this has been removed from the transmission housing and is now attached to the frame of the car on the left hand side.

(1-A) Renew Transmission

(Cars numbered 500,001 and upward)

1. Remove front compartment rubber and felt mats and take out floor boards.
2. Remove clevis pin at bottom of brake pedal and disconnect brake pull rod.
3. Remove clevis pin from clutch adjustable link and disconnect clutch throwout yoke.
4. Unscrew sleeve at rear end -of speedometer shaft and disconnect shaft. Remove bolts from front universal joint flange and disconnect propeller shaft.
6. Remove cap screws holding transmission cover and control lever to transmission and take off control assembly.
7. Remove bolts holding pedal control bracket to transmission and take off pedal control assembly.

Transmission Group

8. Unscrew exhaust manifold packing nut at rear end of exhaust manifold.
9. Remove two bolts holding front end of muffler to muffler bracket.
10. Loosen bolt clamping front of muffler to exhaust pipe; slide exhaust pipe out of exhaust manifold and turn out of way of transmission.
11. Remove bolts holding flywheel guard to rear motor plate, also remove screw holding rear end of guard to transmission case; take off flywheel guard.
12. Remove two bolts holding lower part of transmission case to rear motor plate.
13. Remove nuts from rear ends of three starting motor studs.
14. Remove nuts from two studs holding transmission to motor; this will allow the transmission to be withdrawn from the clutch and lowered to floor.
15. Replace with new transmission assembly, reversing operations described above.

(1-B) Renew Mainshaft, Mainshaft Thrust Ball, Sliding Gears, Mainshaft Rear Bearing, Mainshaft Rear Bearing Thrust Washers, Speedometer Drive Gear, Shifter Forks, Shifter Shaft or Inter-Lock Plunger

(Cars numbered 500,001 and upward)

1. Remove floor boards.
2. Remove cap screws holding transmission case cover to transmission and take off hand control lever assembly.
3. Unscrew sleeve at rear end of speedometer shaft and disconnect speedometer shaft from transmission.
4. Remove bolts from flange of front universal joint and disconnect propeller shaft.
5. Remove cotter pin, nut (44) and washer from rear end of mainshaft and pull off front universal joint flange, using universal joint flange puller shown on Page 22, Service Tool section.
6. Remove speedometer driven gear sleeve (54), takeout gear (56) and shims (55).
7. Remove screws (46) holding mainshaft rear bearing cap (47) to transmission and take off cap.
8. Remove gear shifter shaft lock spring caps (32), take out springs (33) and lock balls (34).
9. Remove gear shifter fork lock screws (23), slide shifter shaft (2) out of shifter forks (24) and rear end of transmission case.
10. Remove shifter shaft interlock plunger (35).
11. The mainshaft may now be removed and any of the above parts which require renewal replaced. The transmission may be reassembled by reversing the above operations. In reassembling it is very important that the correct number of shims (43) be placed on mainshaft to allow an end play of from .003 to .006 when rear bearing cap is tightly bolted in place.

(I-C) Renew Mainshaft Drive Gear, Mainshaft Outer Bearing, Mainshaft Drive Gear Bushing or Front Bearing Cap

(Cars numbered 500,001 and upward)

1. Remove front compartment rubber and felt -mats, and take out front toe and floor boards.

2. Remove clevis pin at bottom of brake pedal and disconnect brake pull rod.
3. Remove clevis pin from clutch adjustable link and disconnect clutch throwout yoke.
4. Unscrew sleeve at rear end of speedometer shaft and disconnect shaft.
5. Remove bolts from front universal joint flange and disconnect propeller shaft.
6. Remove cap screws holding transmission cover and control lever to transmission and take off control assembly.
7. Remove bolts holding pedal control bracket to transmission and take off pedal control assembly.
8. Unscrew exhaust manifold packing nut at rear end of exhaust manifold.
9. Remove two bolts holding front end of muffler to muffler bracket.
10. Loosen bolt clamping front of muffler to exhaust pipe; slide exhaust pipe out of exhaust manifold and turn out of way of transmission.
11. Remove bolts holding flywheel guard to rear motor plate, also remove screw holding rear end of guard to transmission case; take off flywheel guard.
12. Remove two bolts holding lower part of transmission case to rear motor plate.
13. Remove nuts from rear ends of three starting motor studs.
14. Remove nuts from two studs holding transmission to motor; this will allow the transmission to be withdrawn from the clutch and lowered to the floor.
15. Remove cotter pin, nut (44) and washer from rear end of mainshaft and pull off front universal joint flange, using universal joint flange puller shown on Page 22, Service Tool section.
16. Remove speedometer driven gear sleeve (54), take out gear (56) and shims (55).
17. Remove screws (46) holding mainshaft rear bearing cap (47) to transmission and take off cap.
18. Remove gear shifter shaft lock spring caps (32), take out springs (33) ~and lock balls (34).
19. Remove gear shifter fork lock screws (23), slide shifter shafts (2) out of shifter forks (24) and rear end of transmission case; this will allow the removal of the mainshaft and parts assembled to it.
20. Remove screws (9, 14) holding mainshaft front bearing cap (12) to transmission and take off cap, bearing (8) and drive gear assembly (16). These parts may now be renewed as necessary.
21. If drive gear is to be re-bushed, remove old bushing with bushing extractor, "HE-58," Service Tool section, and press new part in place. After this is done, the bushing should be reamed to the correct size and in perfect alignment by means of drive gear bushing reamer and fixture "E-253."
22. The transmission is re-assembled by reversing the above operations, making sure that there is from .005 to .010 end play in the mainshaft after the bearing caps have been bolted in position.

(1-D) Renew Countershaft, Countershaft Gears, or Countershaft Gear Bushings

(Cars numbered 500,001 and upward)

1. Remove front compartment rubber and felt mats and take out front toe and floor boards.
yoke.
2. Remove clevis pin at bottom of brake pedal and disconnect brake pull rod.
3. Remove clevis pin from clutch adjustable link and disconnect clutch throwout

4. Unscrew sleeve at rear end of speedometer shaft and disconnect shaft.
5. Remove bolts from front universal joint flange and disconnect propeller shaft.
6. Remove cap screws holding transmission cover and control lever to transmission and take off control assembly.
7. Remove bolts holding pedal control bracket to transmission and take off pedal control assembly.
8. Unscrew exhaust manifold packing nut at rear end of exhaust manifold.
9. Remove two bolts holding front end of muffler to muffler bracket.
10. Loosen bolt clamping front of muffler to exhaust pipe; slide exhaust pipe out of exhaust manifold and turn out of way of transmission.
11. Remove bolts holding flywheel guard to rear motor plate, also remove screw holding rear end of guard to transmission case; take off flywheel guard.
12. Remove two bolts holding lower part of transmission case to rear motor plate.
13. Remove nuts from rear ends of three starting motor studs.
14. Remove nuts from two studs holding transmission to motor; this will allow the transmission to be withdrawn from the clutch and lowered to the floor.
15. Remove cotter pin, nut (44) and washer from rear end of mainshaft and pull off front universal joint flange, using universal joint flange puller shown on Page 22, Service Tool section.
16. Remove speedometer driven gear sleeve (54), take out gear (56) and shims (55).
17. Remove screws (46) holding mainshaft rear bearing cap (47) to transmission and take off cap.
18. Remove gear shifter shaft lock spring caps (32), take out springs (33) and lock balls (34).
19. Remove gear shifter fork lock screws (23), slide shifter shafts (2) out of shifter forks (24) and rear end of transmission case; this will allow the removal of the mainshaft and parts assembled to it.
20. Remove screws (9, 14) holding mainshaft front bearing cap (12) to transmission and take off cap bearing (8) and drive gear assembly (16). These parts may now be renewed as necessary.
21. Drill 7/32" hole in center of rear countershaft welch plug (29).
22. Insert hooked tool in opening and pull out plug.
23. Remove countershaft lock screw (50) from bottom of transmission case.
24. Insert hooked tool in lock screw hole at rear end of countershaft and pull out countershaft through rear of transmission case.
25. The countershaft gears may now be removed from transmission and renewed or rebushed as necessary, using busing press shown on Page 12, Service Tool section. The countershaft may also be renewed as required.
26. Reassemble transmission, reversing the above operations, making sure that from .003 to .006 end play exists in the mainshaft after the caps are securely bolted in place. The welch plug (29) at rear end of countershaft should be renewed when reassembling transmission. However, in an emergency, the old plug may be used if the hole is tapped out and plugged with a small machine screw to prevent loss of lubrication.

(E) Renew Reverse Idler Gear, Shaft or Idler Gear Bushing

(See 1926 Service Manual, Page 121)

(1-F) Renew Transmission Case

(Cars numbered 500,001 and upward)

1. Remove front compartment rubber and felt mats and take out front toe and floor boards.

2. Remove clevis pin at bottom of brake pedal and disconnect brake pull rod.
3. Remove clevis pin from clutch adjustable link and disconnect clutch throwout yoke.
4. Unscrew sleeve at rear end of speedometer shaft and disconnect shaft.
5. Remove bolts from front universal joint flange and disconnect propeller shaft.
6. Remove cap screws holding transmission cover and control lever to transmission and take off control assembly.
7. Remove bolts holding pedal control bracket to transmission and take off pedal control assembly.
8. Unscrew exhaust manifold packing nut at rear end of exhaust manifold.
9. Remove two bolts holding front end of muffler to muffler bracket.
10. Loosen bolt clamping front of muffler to exhaust pipe; slide exhaust pipe out of exhaust manifold and turn out of way of transmission.
11. Remove bolts holding flywheel guard to rear motor plate, also remove screw holding rear end of guard to transmission case; take off flywheel guard.
12. Remove two bolts holding lower part of transmission case to rear motor plate.
13. Remove nuts from rear ends of three starting motor studs.
14. Remove nuts from two studs holding transmission to motor; this will allow the transmission to be withdrawn from the clutch and lowered to the floor.
15. Remove cotter pin, nut (44) and washer from rear end of mainshaft and pull off front universal joint flange, using universal joint flange puller shown on Page 22, Service Tool section.
16. Remove speedometer driven gear sleeve (54), take out gear (56) and shims (55).
17. Remove screws (46) holding mainshaft rear bearing cap (47) to transmission and take off cap.
18. Remove gear shifter shaft lock spring caps (32), take out springs (33) and lock balls (34). 1
19. Remove gear shifter fork lock screws (23), slide shifter shafts (2) out of shifter forks (24) and rear end of transmission case; this will allow the removal of the mainshaft and parts assembled to it.
20. Remove shifter shaft interlock plunger (35).
21. Remove screws (9,14) holding mainshaft front bearing cap (12) to transmission. Take off cap and transmission drive gear assembly.
22. Drill 7/32" hole in center of rear countershaft welch plug (29).
23. Insert hooked tool in opening and pull out plug.
24. Remove countershaft lock screw (50) from bottom of transmission case.
25. Insert hooked tool in lock screw hole at rear end of countershaft (18) and pull out countershaft through rear of transmission case. Take out countershaft gears (19, 26).
26. Remove from lower part of transmission case lock screw (50) holding reverse idler gear shaft (37) in place.
27. Drill 7/32" hole in center of reverse idler shaft welch plug (49) located in rear of transmission case. Insert hooked tool in opening and pull out plug.
28. Push out reverse idler gear shaft through rear of transmission and remove idler gear.
29. Replace transmission case with new parts and reassemble, reversing above operations. See that sufficient shims (43) are placed on mainshaft to allow .003 to .006 end play after caps (12, 47) are securely bolted in place.

(1-G) Renew Clutch Throwout Yoke or Throwout Yoke Bushing

(Cars numbered 500,001 and upward)

1. Remove front compartment rubber and felt mats and take out front toe and floor boards.
2. Remove clevis pin at bottom of brake pedal and disconnect brake pull rod.
3. Remove clevis pin from clutch adjustable link and disconnect clutch throwout yoke.
4. Unscrew sleeve at rear end of speedometer shaft and disconnect shaft.
5. Remove bolts from front universal joint flange and disconnect propeller shaft.
6. Remove cap screws holding transmission cover and control lever to transmission and take off control assembly.
7. Remove bolts holding pedal control bracket to transmission and take off pedal control assembly.
8. Unscrew exhaust manifold packing nut at rear end of exhaust manifold.
9. Remove two bolts holding front end of muffler to muffler bracket.
10. Loosen bolt clamping front of muffler to exhaust pipe; slide exhaust pipe out of exhaust manifold and turn out of way of transmission.
11. Remove bolts holding flywheel guard to rear motor plate, also remove screw holding rear end of guard to transmission case; take off flywheel guard.
12. Remove two bolts holding lower part of transmission case to rear motor plate.
13. Remove nuts from rear ends of three starting motor studs.
14. Remove nuts from two studs holding transmission to motor; this will allow the transmission to be withdrawn from the clutch and lowered to the floor.
15. Remove cotter and clevis pin (4) holding throwout yoke (3) to transmission front bearing cap and take off yoke.
16. Renew or rebush yoke (3) and reassemble transmission, reversing the above operations.

(1-H) Remove End Play from Mainshaft

(Cars numbered 500,001 and upward)

NOTE: To insure proper lubrication of mainshaft thrust bearings, it is necessary that there be from .003 to .006 end play in the transmission mainshaft at all times. End play in excess of this amount which will develop after extensive service, should be removed by the addition of shims as detailed below, unless the amount is very great, in which case it will be necessary to renew washers (41,42) as described in article 1-B.

1. Remove bolts from Range of front universal joint and disconnect propeller shaft.
2. Unscrew sleeve at rear end of speedometer shaft and disconnect shaft.
3. Remove cotter pin, nut (44) and washer from rear end of transmission mainshaft and pull off front universal joint Range, using universal joint flange puller shown on Page 22, Service Tool section.
4. Remove rear bearing cap screws (46) and take off rear bearing cap (47).
5. Add the required number of shims (43) to mainshaft to allow .003 to .006 end play after cap is bolted in place and reassemble, reversing the foregoing operations.

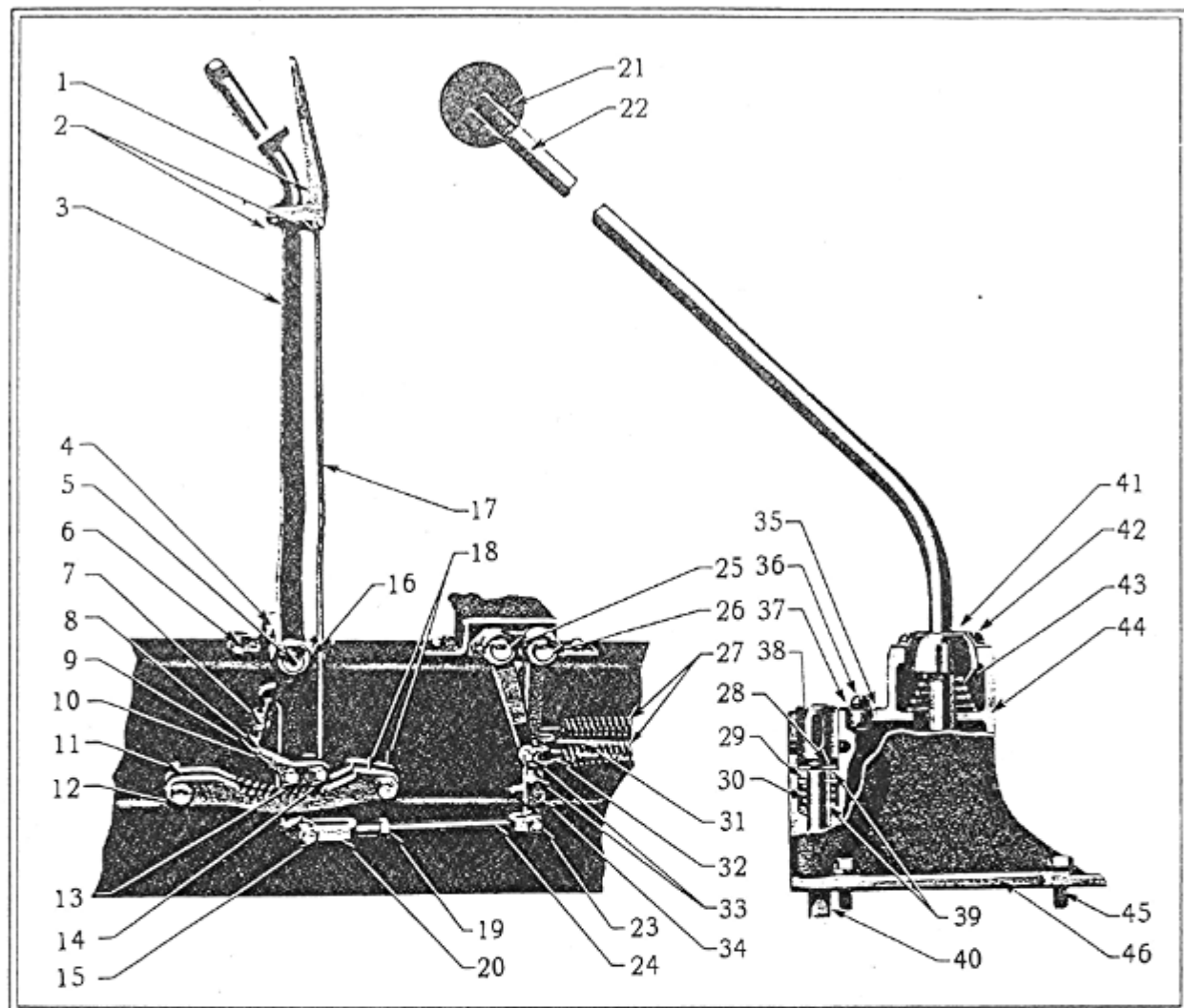
(1-I) Remove Shifter Shaft Lock Ball, Lock Ball Spring or Cap

(Cars numbered 500,001 and upward)

1. Remove shifter shaft lock plunger spring cap (32), take out springs (33) and lock balls (34).
2. Replace parts where necessary and reassemble parts and tighten caps.

Essex Super-Six Hand Control

(Cars numbered 500,001 and upward)



Essex Super Six Hand Control

(Cars numbered 500,001 and upward)

Ref. No.	Name of Part ,	Ref. No.	Name of Part
1.	Brake hand lever latch grip	24.	Brake pull rod
2.	Brake hand lever latch screw	25.	Foot brake cross shaft
3.	Brake hand lever	26.	Hand brake cross shaft
4.	Brake hand lever bracket	27.	Brake release springs
5.	Brake hand lever pivot shaft	28.	Control lock plunger washer
6.	Brake hand lever bracket bolt	29.	Plunger spring washer
7.	Brake lever latch spring	30.	Plunger spring
8.	Brake lever latch spring hook	31.	Cross shaft to idler rod-Hand brake
9.	Brake lever latch-inside	32.	Cross shaft to idler rod-Foot brake
10.	Brake lever latch-outside	33.	Play link clevis pins
11.	Ratchet to frame spacer	34.	Play link
12.	Ratchet bolt	35.	Oil hole cover gasket
13.	Latch clevis pin	36.	Oil hole cover screw
14.	Latch clevis pin	37.	Oil hole cover
15.	Brake pull rod clevis pin	38.	Control lock
16.	Brake lever pivot shaft washer	39.	Plunger felt washer
17.	Latch rod	40.	Control lock plunger
18.	Brake ratchet	41.	Gearshift lever cover
19.	Brake pull rod nut	42.	Gearshift lever cover screw
20.	Brake pull rod yoke	43.	Gearshift lever spring
21.	Gearshift lever ball	44.	Gearshift lever housing
22.	Gearshift lever	45.	Gearshift lever housing bolt
23.	Brake pull rod clevis pin	46.	Housing to transmission case gasket

(1-A) Renew Gearshift Lever, Gearshift Lever Spring or Cover

(Cars numbered 500,001 and upward)

1. Remove gearshift lever ball (21).
2. Remove gearshift lever cover screws (42) and cover (41).
3. Take out lever (22) and springs (43), replace parts where necessary and reassemble, reversing operations 1 and 2.

(1-B) Renew Control Lock, Plunger or Spring

(Cars numbered 500,001 and upward)

1. Remove control lock retaining screw, insert key in lock and turn key as far as possible; this will permit the removal of the lock (38), plunger (40), plunger spring (30) and plunger washer (28).
2. Renew parts where necessary and reassemble.

(1-C) Renew Control Housing

(Cars numbered 500,001 and upward)

1. Remove floor boards.
2. Remove screws (45) holding control housing to transmission, and take off control hand lever assembly.
3. Remove screws (42) holding gearshift lever cover to control housing, take off cover (41), gearshift lever (22) and spring (43).
4. Remove pivot screw from control housing.
5. Remove oil filler cover screws (36), cover (37) and gasket (35).
6. Remove control lock retaining screw, insert key in lock and turn key as far as possible; take out lock (38), plunger (40), plunger spring (30) and plunger washer (28).
7. Replace control housing with new part and reassemble, reversing above operations.

