

WHEEL LOADER HL740(TM)-7

FOREWORD

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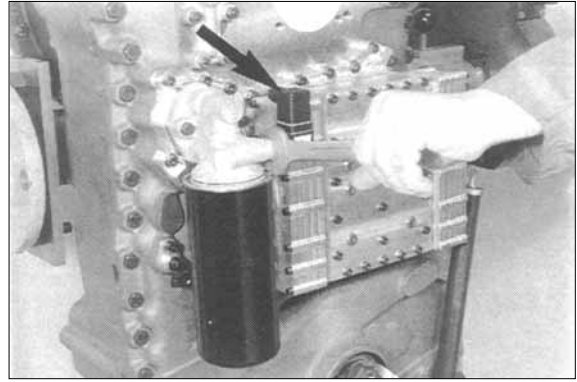
- Group 1 Component Location
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2. TRANSMISSION

1) DISASSEMBLY

(1) Remove filter unit

- ▣ Demount warning switch(Arrow) from filter head.

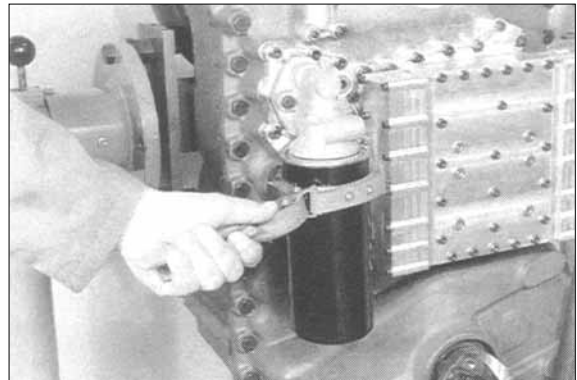


- ▣ Separate oil filter from filter head.

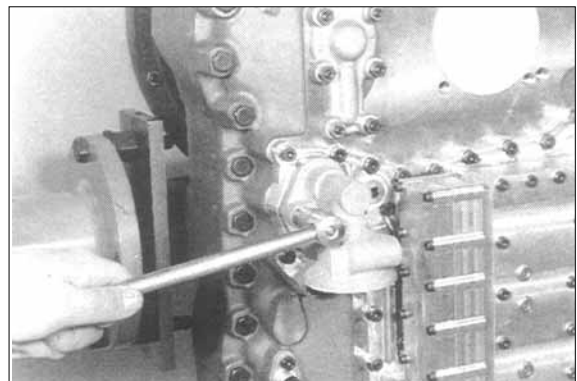
▣ Special tool

Belt spanner

5870 105 005



- ▣ Loosen hexagon head screws and separate filter head from duct plate.



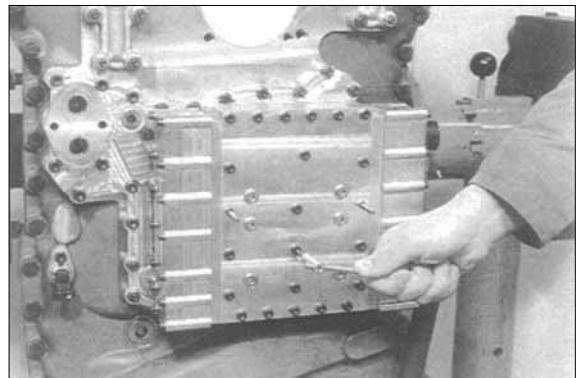
(2) Separate hydraulic control unit and duct plate from gearbox housing

- ▣ Loosen socket head screws, install two adjusting screws and separate control unit from duct plate.

▣ Special tool

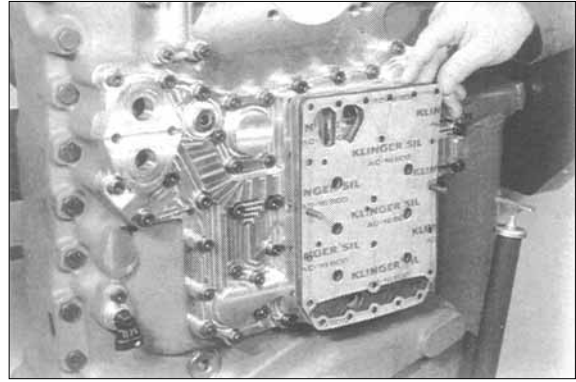
Adjusting screw

5870 204 031



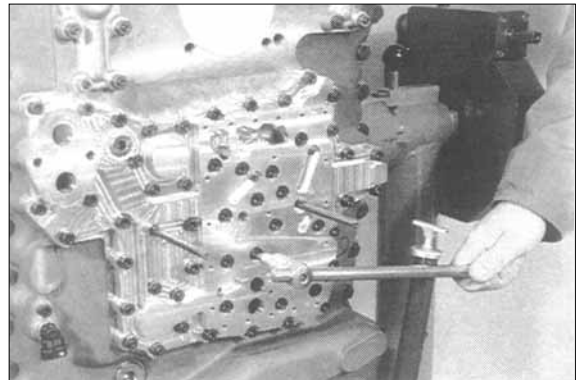
- ⊠ Remove both gaskets as well as intermediate plate.

- ⌚ Special tool
 - Adjusting screws 5870 204 031



- ⊠ Loosen socket head screws and hexagon nuts and separate duct plate from gearbox housing. Now, remove flat gasket.

- ⌚ Special tool
 - Adjusting screws 5870 204 031



(3) Remove and disassemble converter safety valve

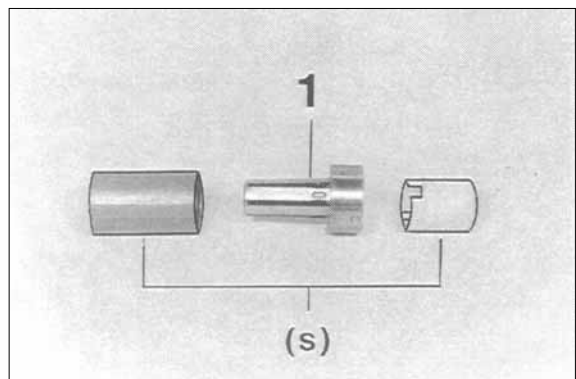
- ⊠ Pull converter safety valve out of the housing bore.



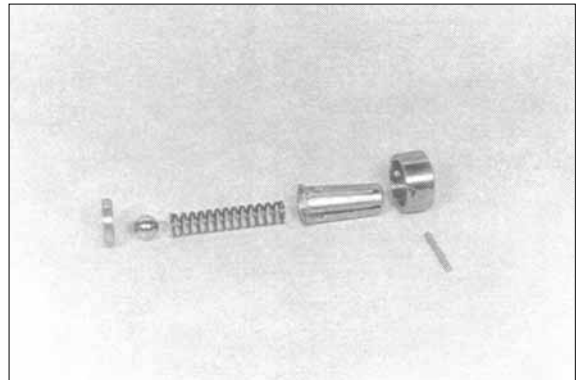
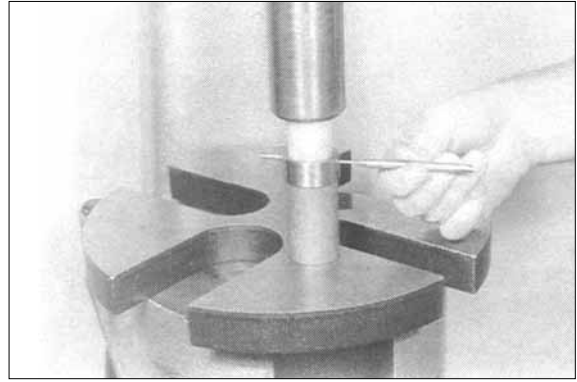
- ⊠ Illustration on the right shows the required special tool for the disassembling of the converter safety valve.

1 Converter safety valve

- ⌚ Special tool
 - Assembly aid 5870 345 084

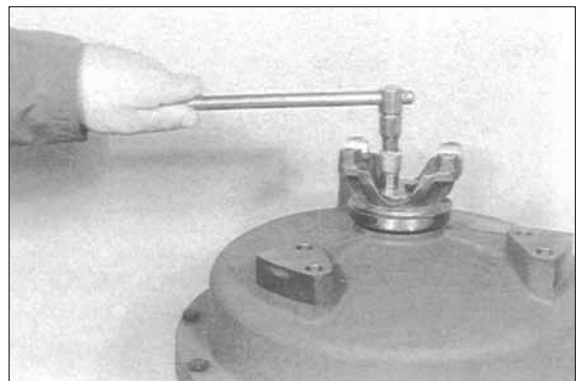


- ⊗ Preload compression spring carefully, remove cylindrical pin(See on the right figure) and demount components(See on the below figure).

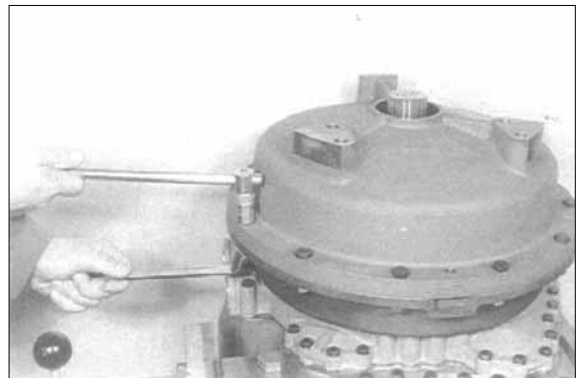


(4) Engine connection-Converter

- ⊗ Remove lock plate and loosen hexagon head screws. Remove disk and pry input flange from the shaft.



- ⊗ Loosen screw connection.
- ⊗ Mark radial installation position of the housing cover.



- ∅ Separate cover along with converter from the transmission, using lifting device.

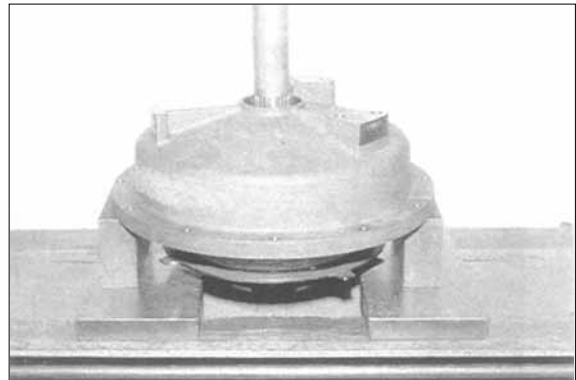
- ¡ Special tool

- Set of eye bolts

- 5870 204 002



- ⚙ Press input shaft, respectively converter out of the cover (Ball bearing).



- ° Squeeze circlip out and remove ball bearing.

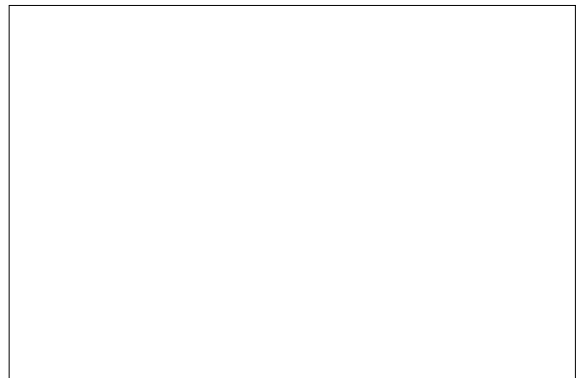
- ¡ Special tool

- Set of internal pliers

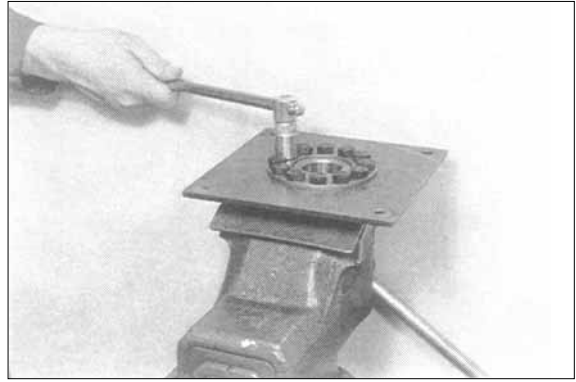
- 5870 900 013



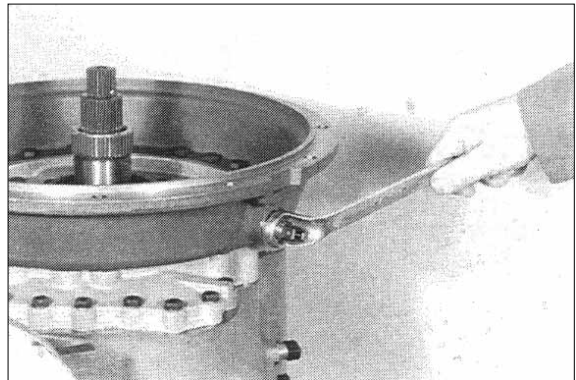
- Loosen hexagon head screws and separate membrane from converter.



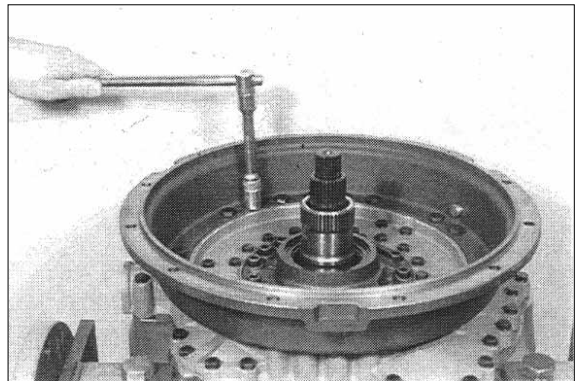
- Loosen hexagon head screws and separate input shaft from the membrane.



- Remove inductive transmitter(n Enging).

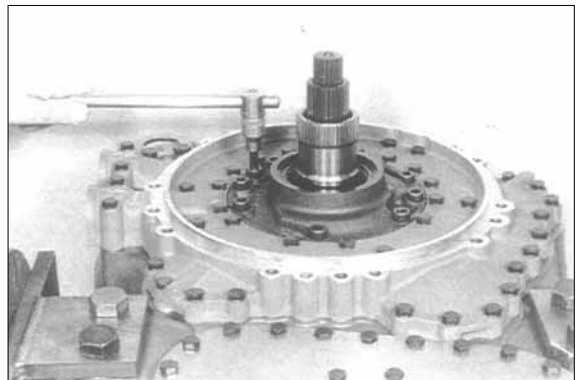


- Loosen hexagon head screws and remove converter housing.



(5) Remove transmission pump

- Loosen socket head screws.

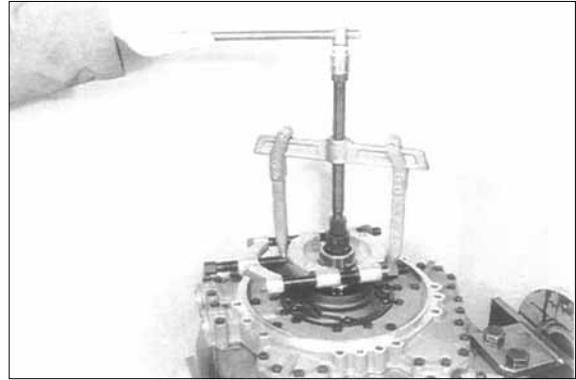


- ⊠ Apply separating device on the splines runout of the stator shaft and pull pump out of the housing bores, using two-leg puller.

- ⌚ Special tool

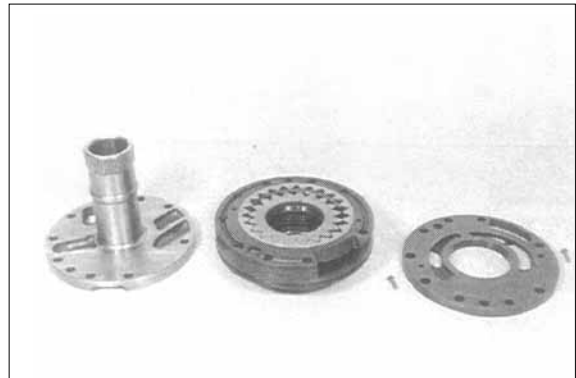
Separating device 5870 300 024

Two-leg puller 5870 970 004

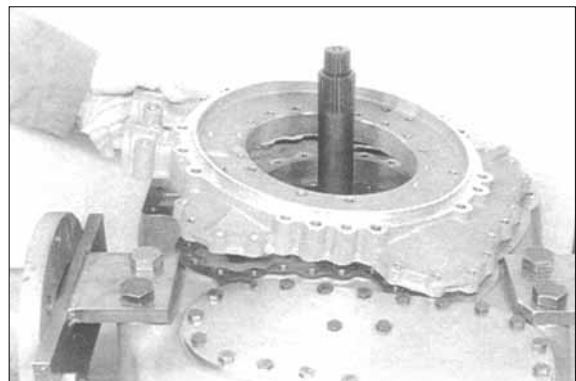


- ⊠ Separate transmission pump from stator.
Separate cam plate from pump.

- ⌚ If traces of wear should be encountered in the pump housing or the cam disk, the complete pump has to be renewed.
Now, fit cam disk again and fix it by means of grooved pins(2EA).

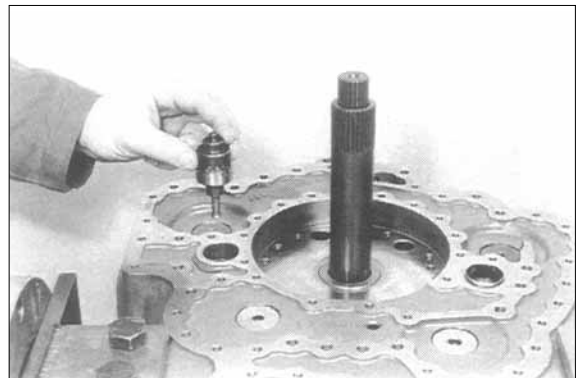


- ⊠ Loosen hexagon head screws and remove oil feed housing.
Now, remove flat gasket.



(6) Converter pressure valve

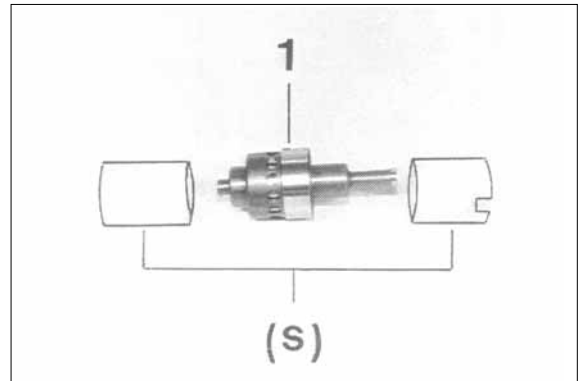
- ⊠ Pull converter pressure valve out of the housing bore.



- ⌚ Illustration on the right shows the special tool required for the disassembling of the converter pressure valve.

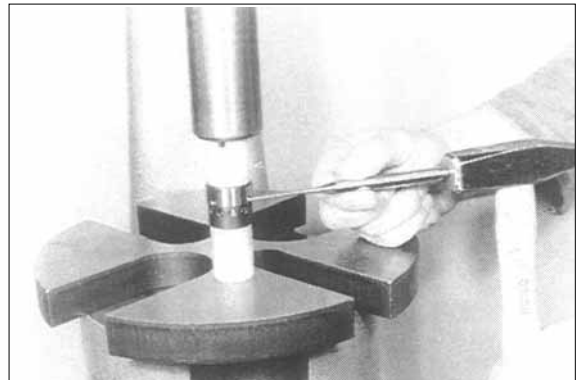
1 Converter pressure valve

- ⌚ Special tool
Assembly aid 5870 345 084

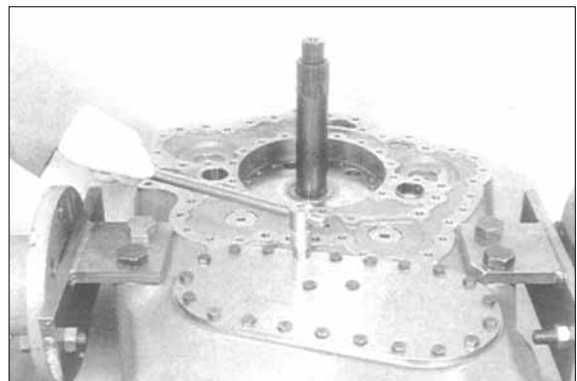


- ⌚ Preload compression spring carefully, drive roll pin out and remove components.

- ⌚ Special tool
Assembly aid 5870 345 084



- ⌚ Loosen hexagon head screws, demount cover and remove flat gasket.



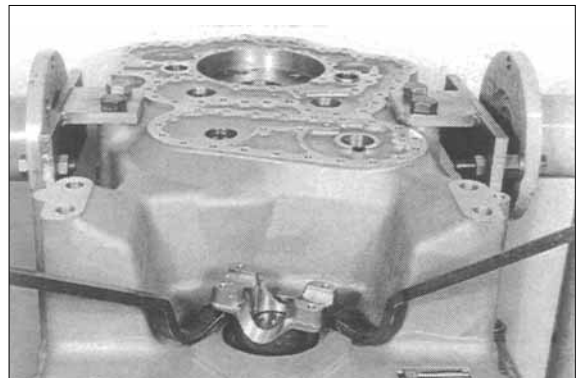
(7) Demount output, input and clutches

- ⌚ Remove lock plate, loosen hexagon head screws, and pry the converter-side output flange from the shaft.

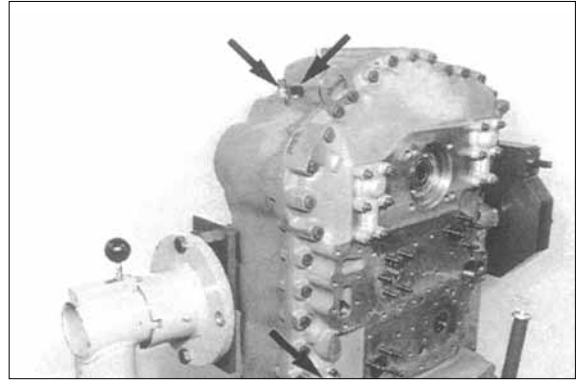
Now, pry shaft seal out of the housing bore.

Tilt gearbox 180° and remove rear output flange accordingly.

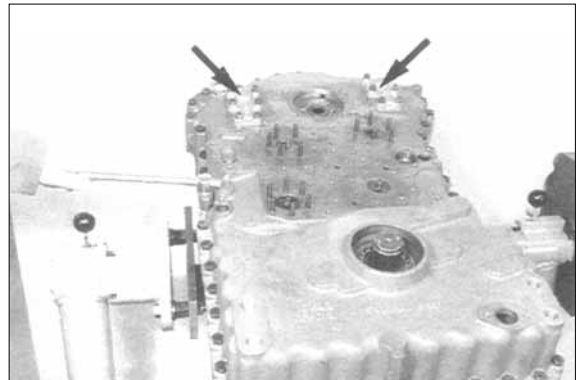
- ⌚ Special tool
Pry bar 5870 345 065



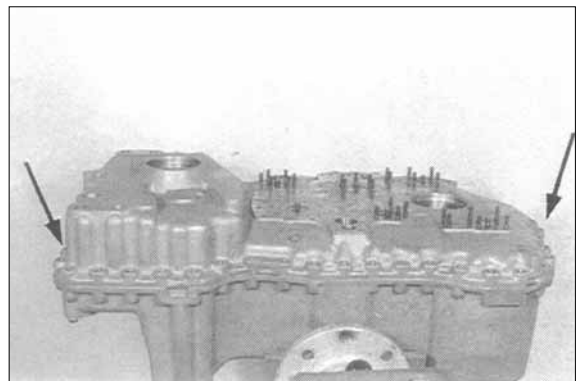
- L Demount speed sensor as well as both inductive transmitters(Arrows).



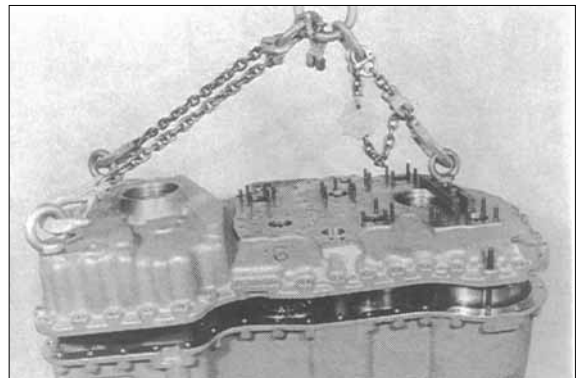
- Ø Loosen hexagon nuts and remove the two covers(Arrows).
Loosen screw connection.



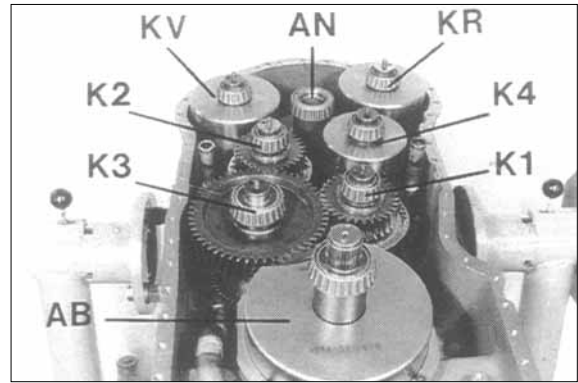
- E Drive both cylindrical pins(Arrows) out.



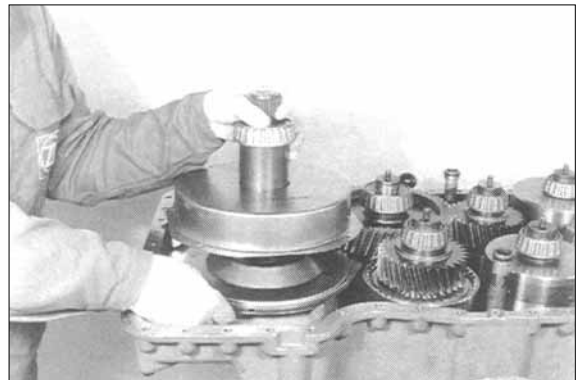
- ° Separate housing cover carefully from gearbox housing, using lifting device.
 - i Special tool
 - Lifting chain 5870 281 047



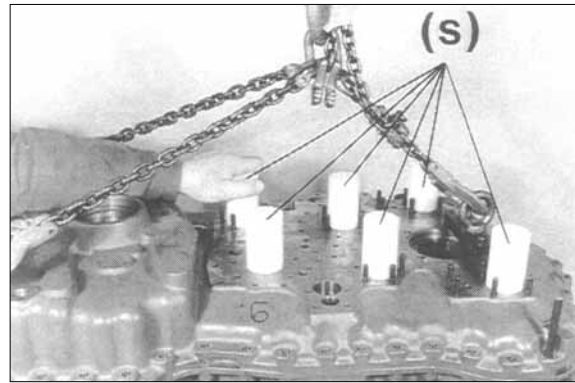
- | | |
|----|------------------|
| KV | Forward clutch |
| KR | Reverse clutch |
| K1 | 1st speed clutch |
| K2 | 2nd speed clutch |
| K3 | 3rd speed clutch |
| K4 | 4th speed clutch |
| AN | Input |
| AB | Output |



- Loosen socket head screws and remove output shaft as well as both oil baffle plates.



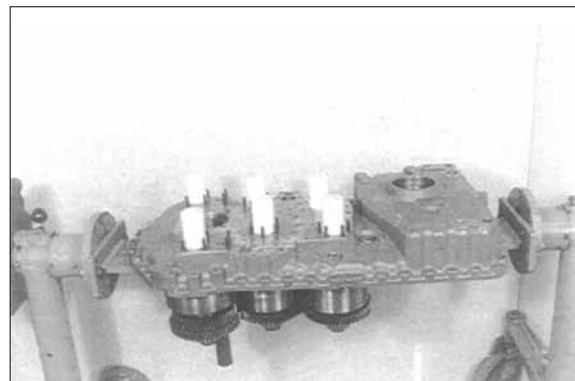
- Assemble housing cover carefully until contact is obtained.
Fix all clutches in the housing cover, using handles.
- ¡ Special tool
Handle(6EA needed) 5870 260 010



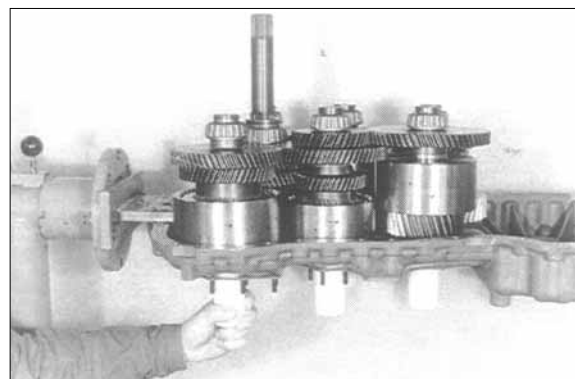
- Separate housing cover along with clutches from gearbox housing, using lifting device.
- ¡ Special tool
Handle(6EA needed) 5870 260 010



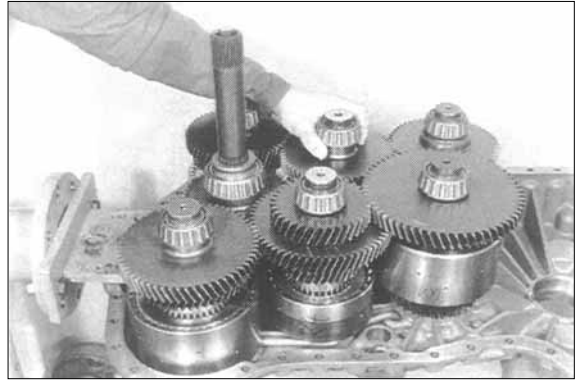
- Fasten housing cover on assembly car.



- æ Tilt housing cover 180°
Remove handles.
- ¡ Special tool
Handle(6EA needed) 5870 260 010



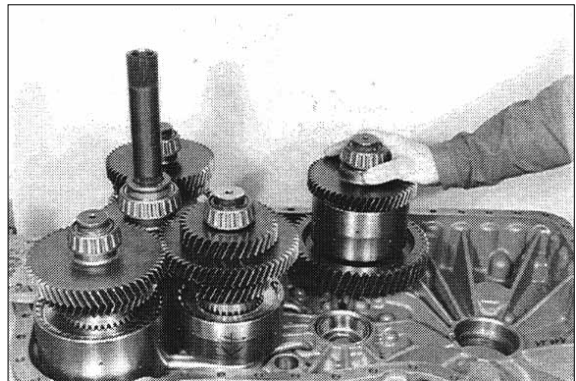
- Remove K2 clutch.



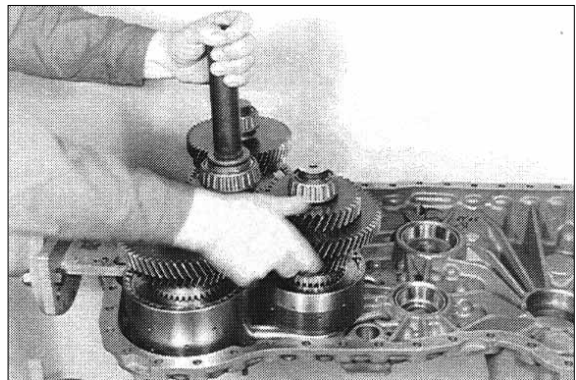
- Remove K1 clutch, at the same time, lift K4 clutch.



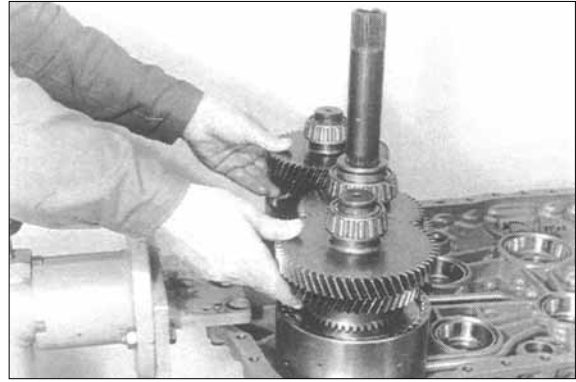
- Lift K3 clutch out of the housing cover.



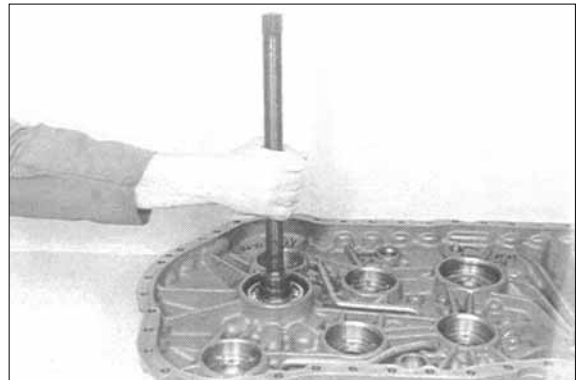
- ₁ Remove K4 clutch, at the same time lift input slightly.



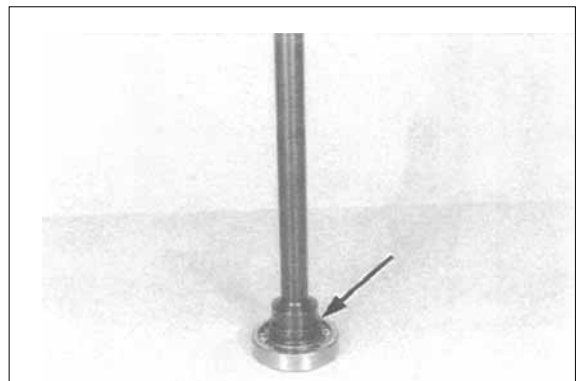
- § Separate KV and KR clutches together with input from the housing cover.



- § Remove bearing outer race and pull output shaft(Power take-off) out of the housing bore.



- § Squeeze rectangular ring(Arrow) out and separate ball bearing from shaft.



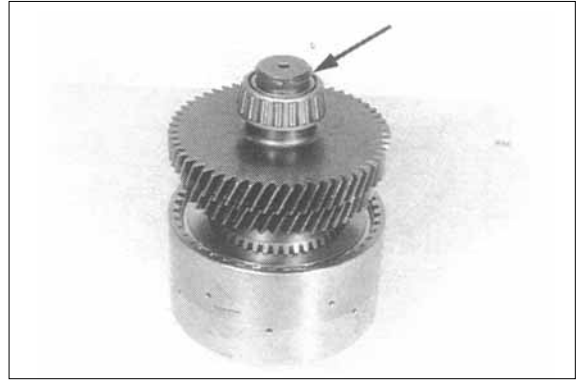
- i If contrary to the recommendation, the tapered roller bearings of the clutches as well as of the input and output would not be renewed, the allocation of the inner and outer races to the single assemblies must at least be maintained.
- i Mark bearing inner and outer races accordingly.

(8) Disassemble KV and KR clutch

ï The following figures show the disassembly of the KV clutch.

The disassembly of the KR clutch is analogous.

- ▣ Squeeze rectangular ring(Arrow) out.

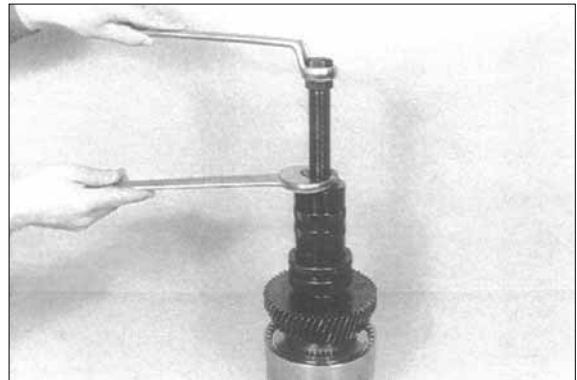


- ▣⌞ Pull tapered roller bearing from the shaft.
Demount opposite tapered roller bearing accordingly.

ï Special tool

Grab sleeve 5873 001 057

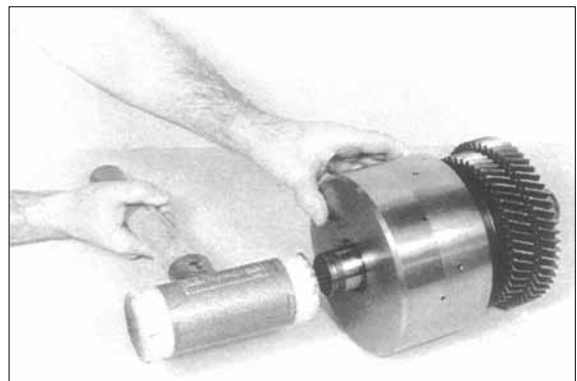
Basic set 5873 001 000



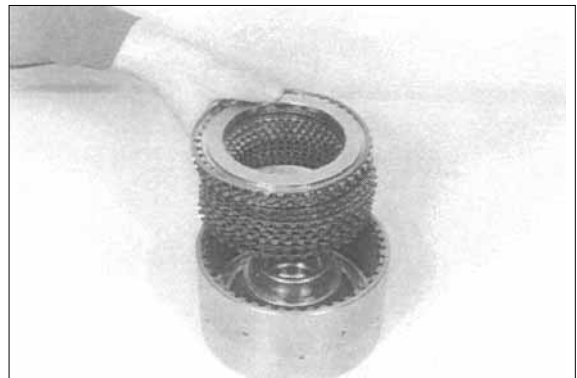
- ▣∅ Separate plate carrier from shaft.

ï Special tool

Hammer 5870 280 004



- ▣⌘ Squeeze snap ring out and remove plate pack.



- ° Preload compression spring, squeeze circlip out and remove components.

- Special tool

Assembly aid 5870 345 086

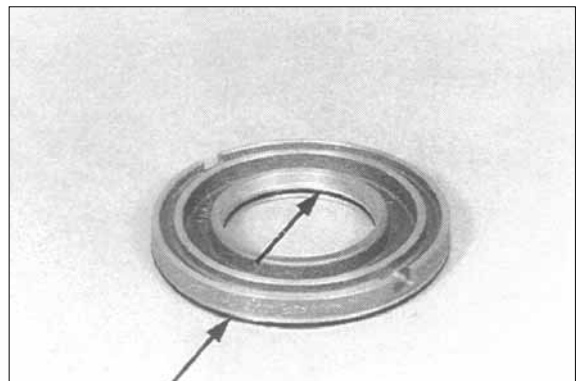
Set of external pliers 5870 900 015



- Lift piston by means of compressed air out of the cylinder bore and remove it.



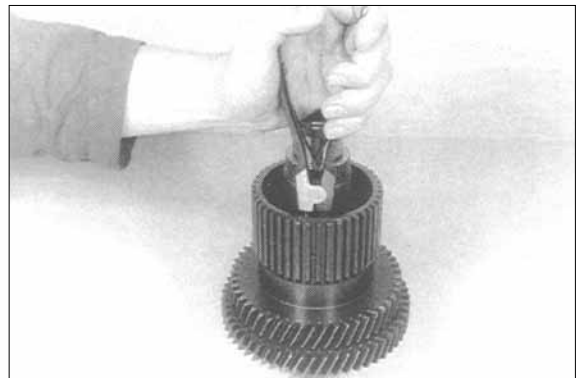
- Remove both O-rings.



- Squeeze inner circlip(Shaft) out.

- Special tool

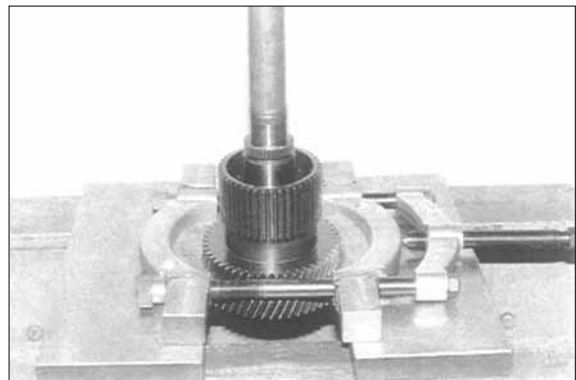
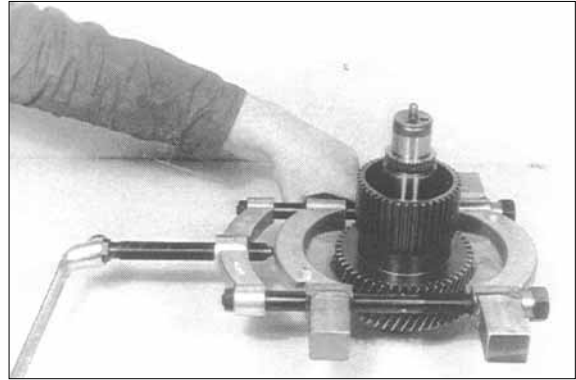
Set of external pliers 5870 900 015



- Locate idler gear by means of separating device(See on the right figure) and press it from the shaft(See on the below figure).
Remove released needle bearing.

¡ Special tool

Separating device 5870 300 028

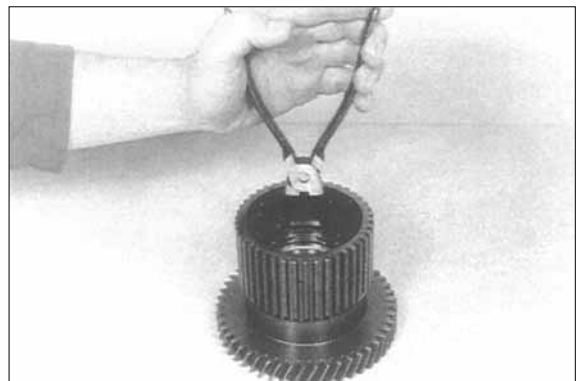


- Squeeze circlip out and remove ball bearing.

¡ The disassembly of the KR clutch has to be carried out accordingly.

¡ Special tool

Set of internal pliers 5870 900 013

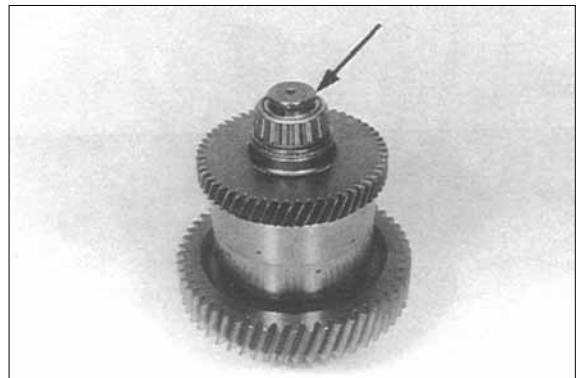


(9) Disassemble K1, K2 and K3 clutch

- ¡ The following Figures show the disassembly of the K3 clutch.

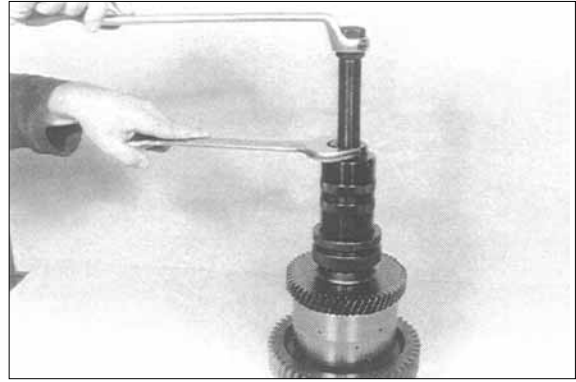
The disassembly of the K1 and K2 clutches is analogous.

- Squeeze rectangular ring(Arrow) out.

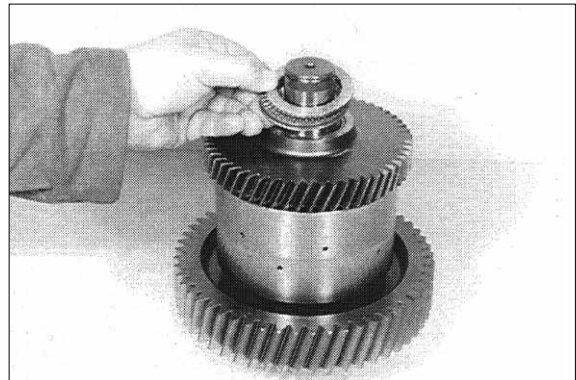


⌘⌚ Pull tapered roller bearing from the shaft.
Remove opposite tapered roller bearing accordingly, see Figure ⌘ , ⌘⌚

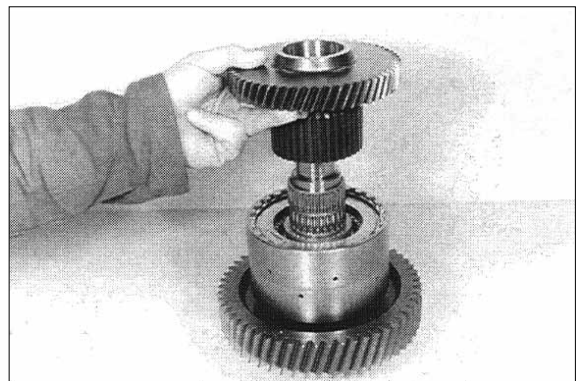
⌘ Special tool
Grab sleeve 5873 001 057
Grab sleeve 5873 001 058
(K3 on output side)
Basic set 5873 001 000



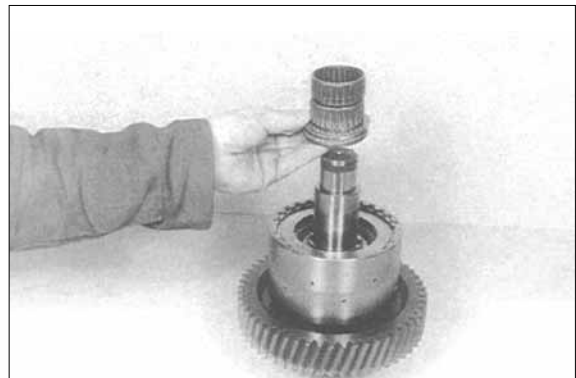
⌘⌚ Remove running disk, axial needle cage and axial washer.



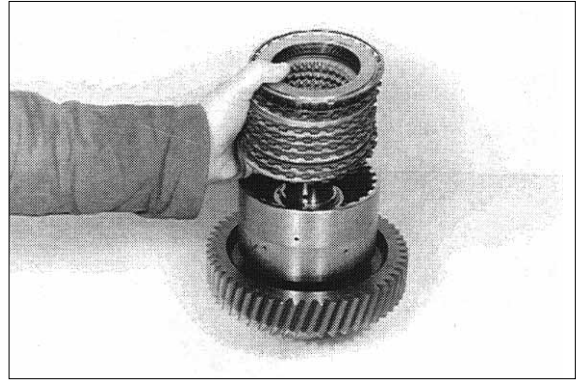
⌘⌚ Remove idler gear.



⌘° Remove both needle bearings as well as axial bearing.



- ▣ Squeeze snap ring out and remove plate pack.



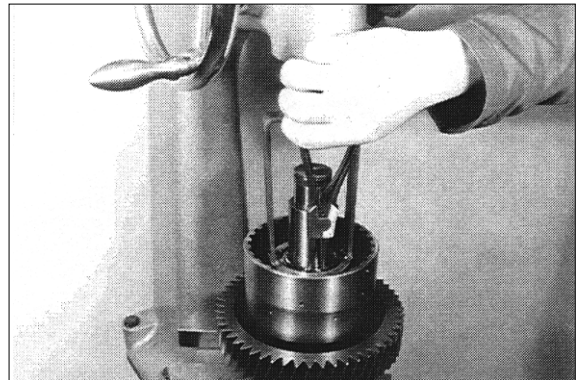
- ▣ Preload compression spring, squeeze circlip out and remove components.

- ▣ Special tool

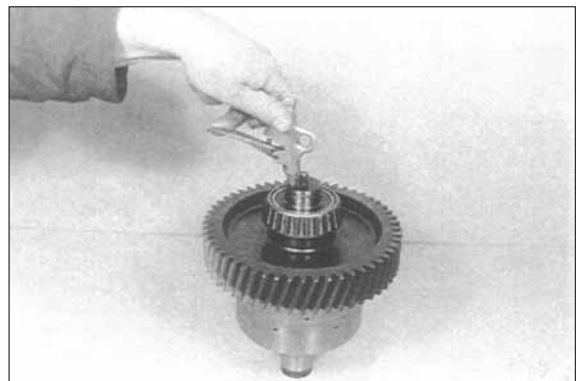
Assembly aid(K2 and K3) 5870 345 085

Assembly aid(K1) 5870 345 086

Set of external pliers 5870 900 015



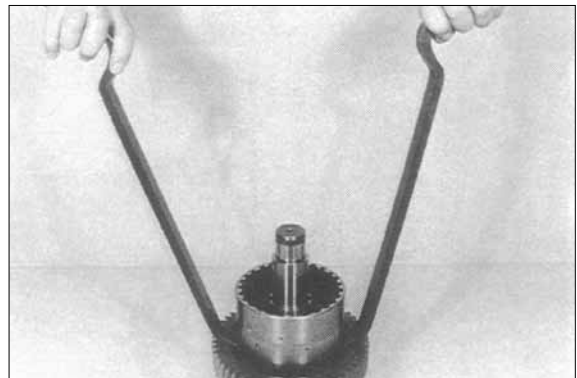
- ▣ Press piston out of the plate carrier, using compressed air.



- ▣ Pry plate carrier from the shaft.

- ▣ Special tool

Pry bar 5870 345 065



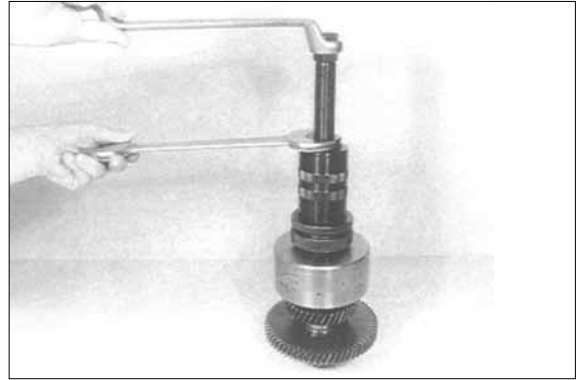
(10) Disassemble K4 clutch

- Squeeze rectangular ring out and pull tapered roller bearing from the shaft.
Remove opposite tapered roller bearing accordingly.

- Special tool

Grab sleeve 5873 001 057

Basic set 5873 001 000



- Squeeze circlip out and separate plate carrier from the shaft.

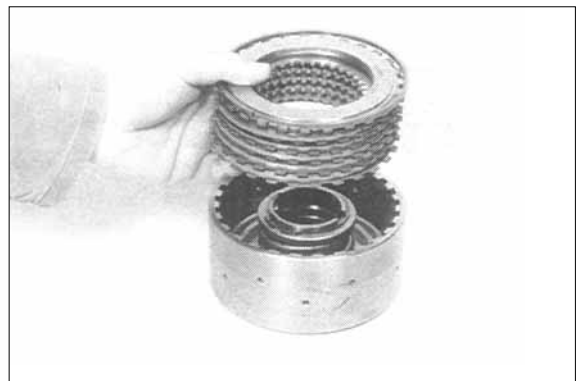
- Special tool

Assembly aid 5870 345 085

Set of external pliers 5870 900 015



- Squeeze snap ring out and demount plate pack.



- Preload compression spring, squeeze circlip out and remove components.
Demount piston.

- The separation of shaft and gear is not possible (Shrink fit).

- Special tool

Assembly aid 5870 345 085



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