SERVICE MANUAL

T7.170 / T7.185 / T7.200 / T7.210

Auto Command Tractors

T7.170 / T7.185 / T7.200 / T7.210

Range Command / Power Command Tractors

Print No. 84477609A

NEW HOLLAND AGRICULTURE

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Code	Description	Frame
S-136	**EHR** 2 EXT	Wiring harness - Electrical schematic frame 25 (A.30.A)
S-137	**EHR** 2 RET	Wiring harness - Electrical schematic frame 25 (A.30.A)
S-138	Cruse Control	Wiring harness - Electrical schematic frame 25 (A.30.A)
S-139	Work / Raise	Wiring harness - Electrical schematic frame 25 (A.30.A)

SOLENOID

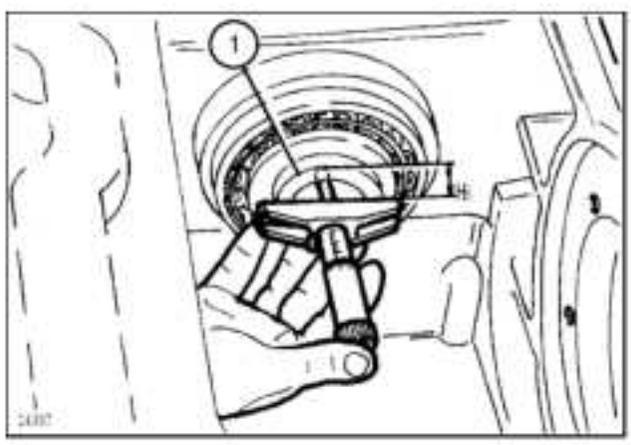
Code	Description	Frame
Y-001	Exhaust Brake Solenoid	Wiring harness - Electrical schematic frame 12 (A.30.A)
Y-002	Suspension Raise Solenoid	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-003	Suspension Lower Solenoid	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-004	Upper Lockout Solenoid	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-005	Lower Lockout Soleniod	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-006	Link Levelling Valve 2	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-007	Link Levelling Valve 3	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-008	Link Levelling Valve 4	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-009	Link Levelling Valve 5	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-010	Loader Valve 2	Wiring harness - Electrical schematic frame 48 (A.30.A)
Y-011	High Pressure Pump Metering Valve	Wiring harness - Electrical schematic frame 13 (A.30.A)
Y-012	Electronic Draft Control Valve Raise	Wiring harness - Electrical schematic frame 17 (A.30.A)
Y-013	Electronic Draft Control Valve Lower	Wiring harness - Electrical schematic frame 17 (A.30.A)
Y-014	Link Levelling Valve 1	Wiring harness - Electrical schematic frame 20 (A.30.A)
Y-015	Fast Steer Solenoid Valve	Wiring harness - Electrical schematic frame 22 (A.30.A)
Y-016	Front PTO Solenoid	Wiring harness - Electrical schematic frame 21 (A.30.A)
Y-017	Reversible Fan Valve	Wiring harness - Electrical schematic frame 12 (A.30.A)
Y-018	Rear PTO Brake Solenoid	Wiring harness - Electrical schematic frame 19 (A.30.A)
Y-019	Rear PTO Solenoid	Wiring harness - Electrical schematic frame 19 (A.30.A)
Y-021	Brake De-Icer	Wiring harness - Electrical schematic frame 47 (A.30.A)
Y-022	Pneumatic Trailer Brake Solenoid	Wiring harness - Electrical schematic frame 47 (A.30.A)
Y-023	Park Brake Solenoid	Wiring harness - Electrical schematic frame 47 (A.30.A)
Y-024	Solenoid Clutch A	Wiring harness - Electrical schematic frame 15 (A.30.A)
Y-025	Solenoid Clutch B	Wiring harness - Electrical schematic frame 15 (A.30.A)
Y-026	Solenoid Valve F2	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-029	Reverse Range Solenoid	Wiring harness - Electrical schematic frame 18 (A.30.A)
Y-030	Solenoid 19th Gear	Wiring harness - Electrical schematic frame 15 (A.30.A)
Y-031	Solenoid 19th Gear - Dump Valve	Wiring harness - Electrical schematic frame 15 (A.30.A)
Y-033	Solenoid Valve R1	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-034	Solenoid - Dump Valve	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-036	Loader Valve 1	Wiring harness - Electrical schematic frame 48 (A.30.A)
Y-037	Hydraulic Trailer Brake Solenoid 1 / 2	Wiring harness - Electrical schematic frame 47 (A.30.A)
Y-038	Diff Lock Solenoid	Wiring harness - Electrical schematic frame 15 (A.30.A)
Y-039	Creeper Solenoid	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-040	4WD Solenoid	Wiring harness - Electrical schematic frame 15 (A.30.A)
Y-044	**Auto Guidance** Dump Solenoid	Wiring harness - Electrical schematic frame 27 (A.30.A)
Y-045	**AdBlue** Heating control Valve	Wiring harness - Electrical schematic frame 14 (A.30.A)
Y-046	**AdBlue** Injection Valve	Wiring harness - Electrical schematic frame 14 (A.30.A)
Y-050	**Auto Guidance** Turn Right Solenoid	Wiring harness - Electrical schematic frame 27 (A.30.A)
Y-051	**Auto Guidance** Turn Left Solenoid	Wiring harness - Electrical schematic frame 27 (A.30.A)
Y-052	Heating Valve	Wiring harness - Electrical schematic frame 29 (A.30.A)
Y-053	Solenoid Clutch C	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-054	Solenoid Clutch D	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-055	Solenoid Clutch E	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-056	Low Range Solenoid	Wiring harness - Electrical schematic frame 16 (A.30.A)
Y-057	Med Range Solenoid	Wiring harness - Electrical schematic frame 15 (A.30.A)
Y-058	High Range Solenoid	Wiring harness - Electrical schematic frame 16 (A.30.A)

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5. Adjuster shim thickness (S1) is given by:
S1 = H1 - H2
where:
H1 = Depth gauge reading
H2 = Correct nominal dimension between crown wheel centre line and pinion base.
If necessary, round up the value (S1) to the next **0.05 mm**.
Examples:
- Depth gauge reading: H1 = **186.2 mm**
- Nominal dimension between crown wheel centre line and pinion base: H3 = **183 mm**
Example 1:
- Correction factor: C = + **0.1 mm**
- Correct nominal dimension: H2 = 183 + 0.1 = **183.1 mm**
- Adjuster shim thickness
- S1 = 186.2- 183.1 = **3.1 mm**
Example 2:
- Correction factor: C = - **0.1 mm**
- Correct nominal dimension: H2 = 183- 0.1 = **182.9 mm**
- Adjuster shim thickness:
- S1 = 186.2 - 182.9 = **3.3 mm**
Example 3:
- Correction factor C = **0 mm**
- Correct nominal dimension: H2 = H3 = **183 mm**
- S1 Adjuster shim thickness:
- S1 = 186.2 - 183= **3.2 mm**

6. Remove universal tool number **380000249**.

7. Determining pinion shaft pre-load shim thickness (Shim **(A)** figure **1**) of the pinion shaft tapered roller bearings using special tool number **380000470**.
Proceed as follows:
1. Using a depth gauge, measure dimension (H6) between the end of tool number **380000470 (1)** and the end of the inner screw.
2. Remove tool number **380000470** from the rear axle housing.



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SERVICE BRAKE Pneumatic - Troubleshooting

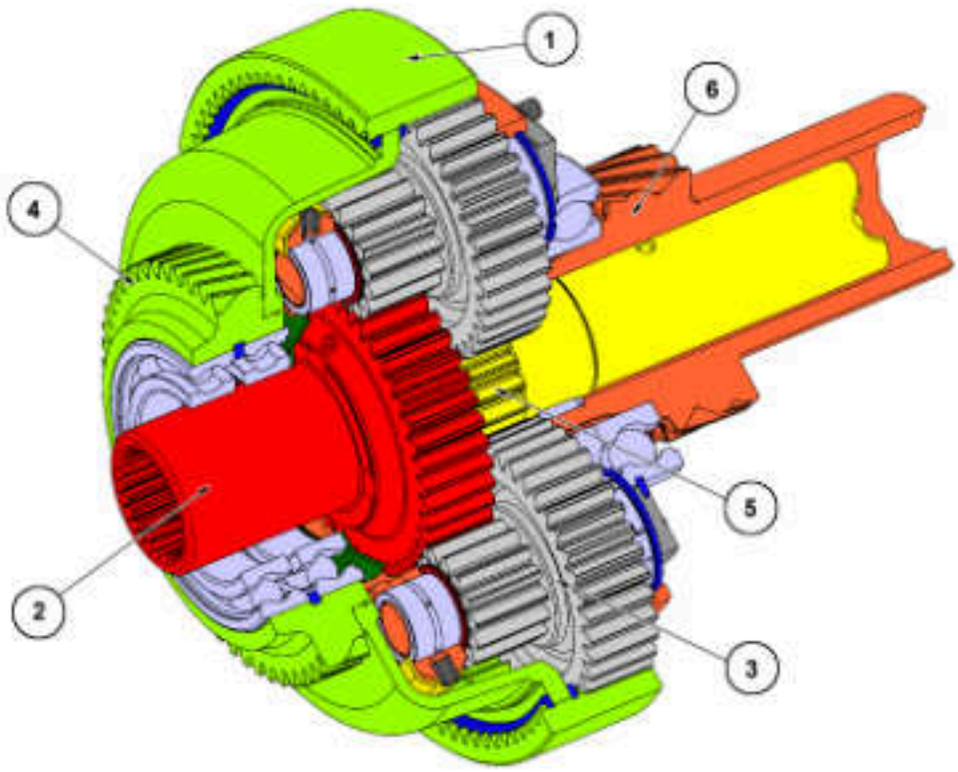
Problem	Possible Cause	Correction
System pressure too high (exceeds 12 bar +/- 2)	Faulty unload valve	Remove valve clean/replace.
Delay in trailer brake operation	Dual line solenoid failed closed or permanently energised.	Disconnect wiring to solenoid. If brakes operate normally inspect wiring for short to **+12 v**. If still a delay in operation after wire disconnection replace solenoid assembly. Faulty brake switch
Instrument cluster light illuminates when system is running.	System pressure below **4.5/3.5 bar**.	Compressor drive belt broken Check system for leaks Unload valve failed, stuck open Compressor fault Reservoir drain tap faulty
	Faulty switch or switch wiring	Disconnect wiring to switch. If light extinguishes replace switch. If light remains illuminated check wiring for short to earth.
Trailer brakes not functioning (system air pressure okay)	Air in hydraulic braking system	Bleed brakes. Refer to **SERVICE BRAKE Hydraulic - Bleed (D.30.C)**
	Faulty pilot valve	Disconnect supply line to control valve from pilot valve assembly. Operate the brakes, if oil is expelled, pilot valve is okay. If no oil expelled remove and inspect pilot valve.
	Control valve faulty	Repair/replace as required
System pressure too high (exceeds 12 bar +/- 2)	Faulty Relief valve	Remove valve clean/replace. refer to **Relief valve - Remove (A.20.A)**

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Summing planetary gear

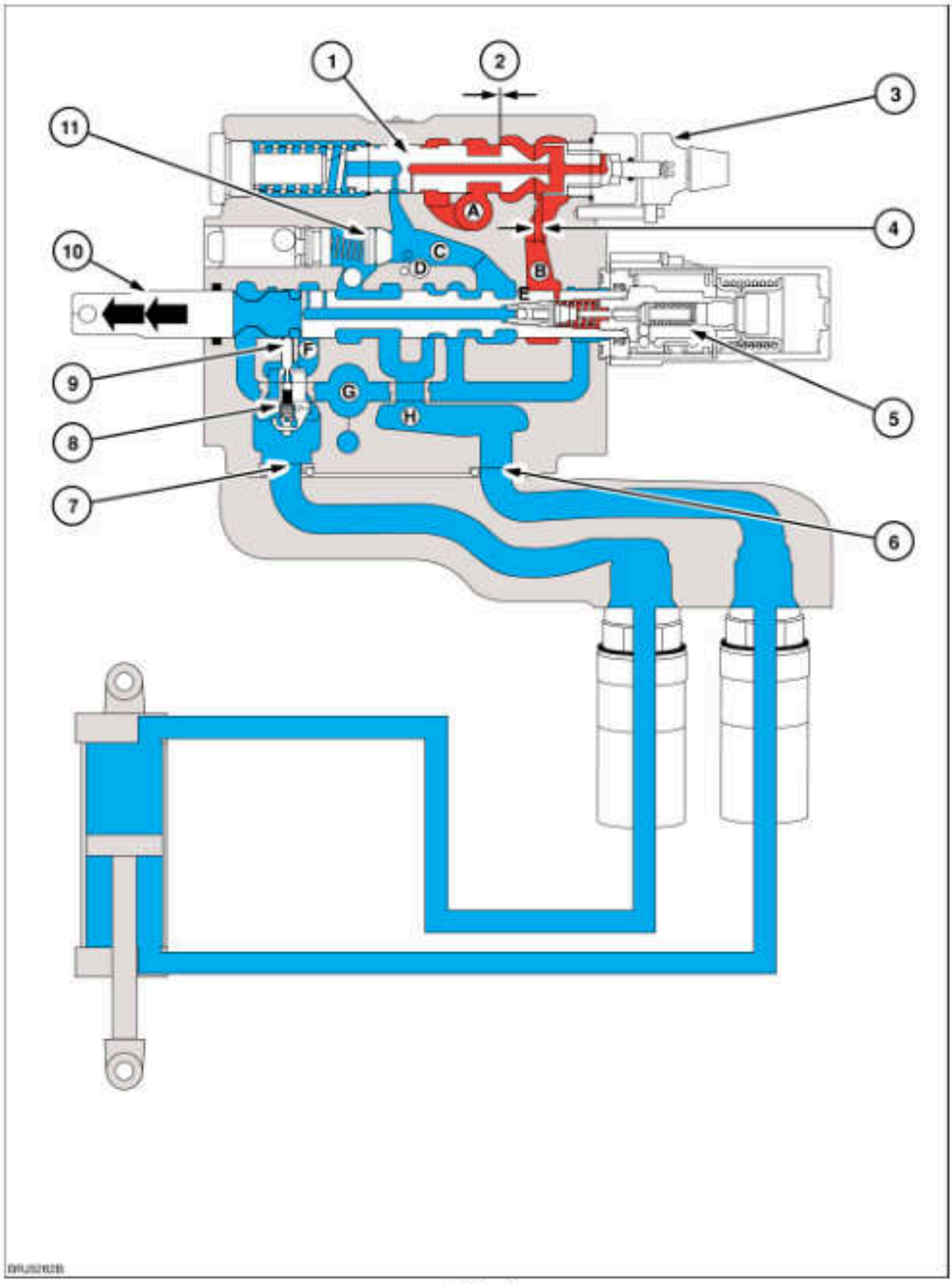
The summing planetary gear is a "four shaft planetary gear drive" with two input shafts and two output shafts. The sun gear **(2)** and the ring gear **(1)** are in a figurative sense the two input shafts.
The planetary carrier **(6)** and the sun gear **(5)** are each permanently attached to an output shaft. The ring gear **(1)** is powered directly by the hydro motor via the spur gear **(4)**. The sun gear **(2)** is powered directly by the combustion engine. The driving power **(3)** is transferred from the three twin planetary gears to the relevant output shaft either via the planetary carrier **(6)** or via the sun gear **(5)**.

Two forwards and one reverse gear can be continuously realised with the aid of the summing planetary gear's two output shafts in connection with the downstream synchronisers and clutches. As a result all of the requirements such as a high degree of tractive force, high final speed, the necessary transmission spread and an excellent degree of efficiency are attained.



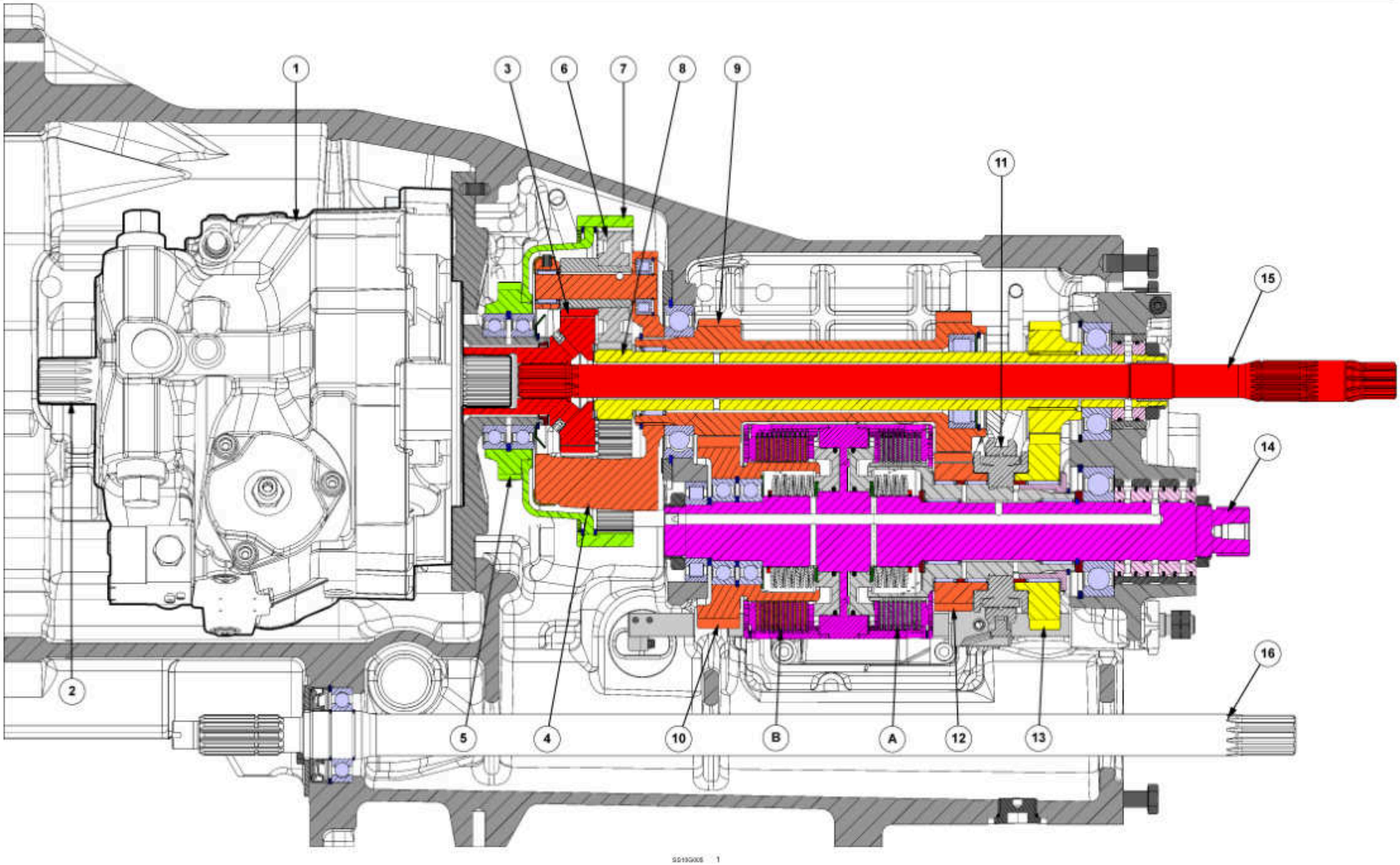
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