

# John Deere 870G, 870GP, 872G, 872GP (SN.F656526-678817) Motor Graders Service Repair Manual (TM13029X19)

870G, 870GP, 872G, and  
872GP Motor Graders (SN.  
F656526—678817) Repair



## REPAIR TECHNICAL MANUAL

**FT4 models 870G, 870GP, 872G, 872GP (PIN: 1DW87\*G\*\*\*F656526—678817)**

TM13029X19 10 MAR 16 (ENGLISH)

**For complete service information also see:**

870G, 870GP, 872G, and 872GP Motor Graders (SN. F656526—678817)  
Diagnostic

TM13028X19

JDLINK (MTG) Technical Manual

TM114519

TeamMate II 1200, 1400, and 1600 Series Inboard Planetary Axles

CTM43

DF230 Series Transmission

CTM362

TeamMate II 1400

120 Series Hydraulic

6090 PowerTech™ OEM Dies



DOWNLOAD



John Deere Construction and Forestry  
Printed by Belgreen



**Covers:** 870G,1DW870G\*\*\*F656526-678817),870GP,1DW870G\*\*\*F656526-

**Type:** Service Manual

**Language:** English

**Pages:** 605

**Format:** PDF

**Features:** Bookmarked, searchable, printable

**Compatibility:** Windows/Mac/Tablet/Mobile

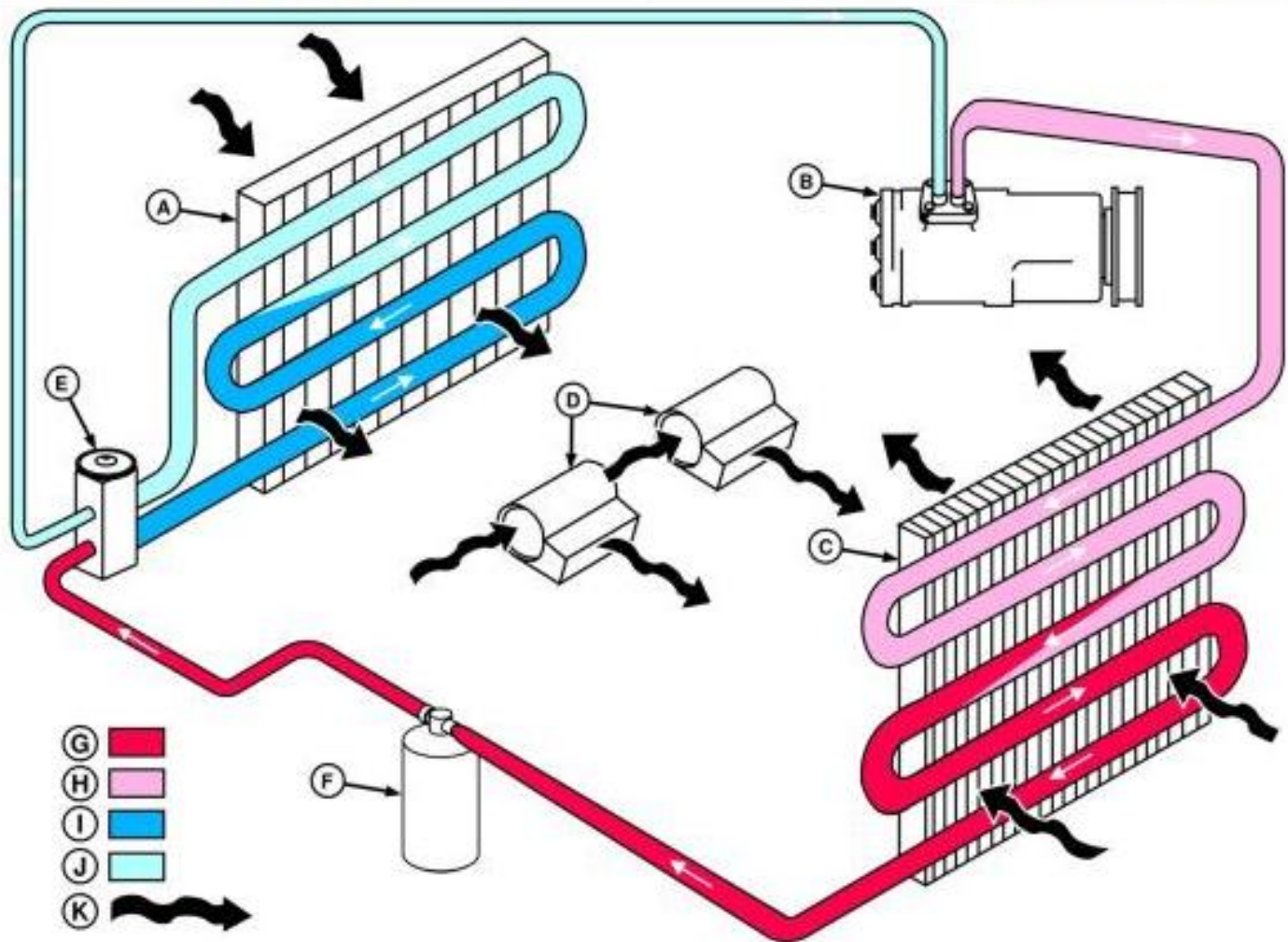
This service manual contains important information for the maintenance, troubleshooting and servicing of the **John Deere 870G, 870GP, 872G, 872GP (SN.F656526-678817) Motor Graders Service Repair Manual (TM13029X19)**

In this manual you will find detailed specifications, illustrations, schematics, diagrams and step-by-step procedures to properly service and diagnose the machine to the manufacturer's standards.

**Contents:**

- General Information
- Specifications
- Serial Number Location
- Engine Specifications
- Engine Diagnostics
- Engine Tests and Adjustments
- Engine Repair
- Power Train
- Transmission
- Axles
- Differential
- PTO
- Hydraulic System
- Electrical System
- Electrical Tests and Diagnostics
- Wiring Diagram / Schematic
- Ignition and Charging
- Steering
- Brakes
- Wheels
- Operator's Platform
- Body Panels
- Disassembly and Assembly
- Diagnostics, Tests and Adjustments
- Troubleshooting
- and much more...

Please note this manual is in **downloadable PDF format only**. If you have any questions about this product or would like to request sample pages, please contact us and reference the product name or SKU.



LVC12778

### AC System Cycle

#### LEGEND:

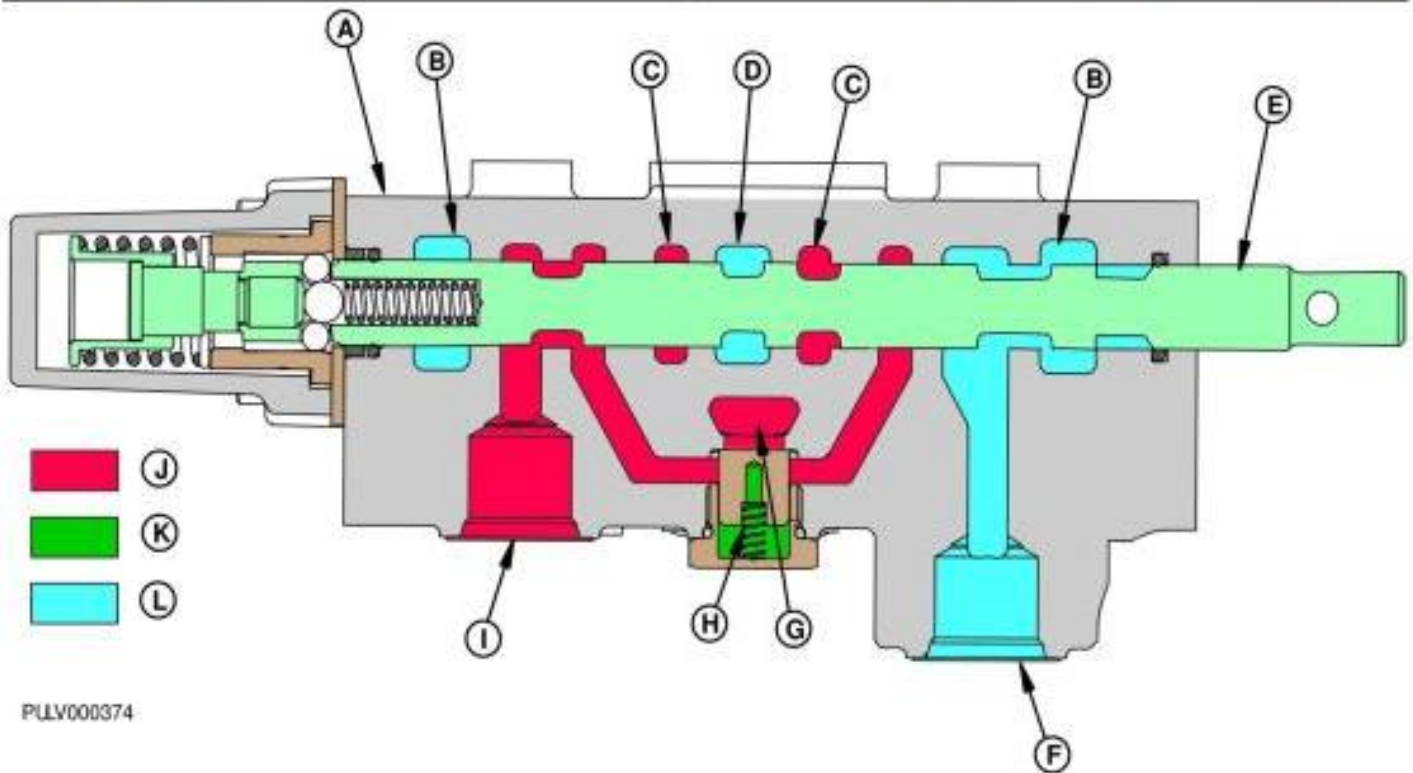
|   |                        |
|---|------------------------|
| A | Evaporator             |
| B | Compressor             |
| C | Condenser              |
| D | Circulation Fan Motors |
| E | Expansion Valve        |
| F | Receiver-Dryer         |
| G | High Pressure Liquid   |
| H | High Pressure Gas      |
| I | Low Pressure Liquid    |
| J | Low Pressure Gas       |
| K | Air Flow               |

The compressor (B) draws low pressure refrigerant gas (J) from the evaporator (A) and compresses it to a high pressure gas (H). This causes the temperature of the refrigerant to rise higher than that of the outside air. It goes to the condenser (C) as a high pressure gas.

As the high pressure gas passes through the condenser, heat is removed and transferred to the outside air being drawn through the condenser core by the engine fan. This cools the gas and condenses it into a liquid, still under high pressure. It goes to the receiver/dryer (F) as a high pressure liquid (G).

The high pressure liquid then passes through the receiver-dryer where a special filter removes contaminants (moisture, acids, solids, etc.). The receiver-dryer also acts as a reservoir for refrigerant.

The actual cooling and drying of cab air takes place at the evaporator (A). Flow of the high pressure liquid refrigerant through the evaporator is controlled by the expansion valve (E). The expansion valve causes the temperature and pressure of the



### Dual Mid-Mount Bucket SCV

#### LEGEND:

|   |                                       |
|---|---------------------------------------|
| A | Valve Housing                         |
| B | Sump Passage                          |
| C | Inlet Passages                        |
| D | Return Pressure Passage               |
| E | Spool                                 |
| F | Retract Port                          |
| G | Pressure Inlet Passage                |
| H | Load Check                            |
| I | Extend Port                           |
| J | System Pressure Oil                   |
| K | Trapped Oil                           |
| L | Return Oil                            |
| M | Bucket SCV Extend Port (Regenerative) |
| N | Bucket SCV Retract Port               |
| O | Lift SCV Retract Port                 |
| P | Lift SCV Extend Port (Float)          |

When the spool (E) moves out, the inlet passages (C) are blocked, preventing fluid flow out return pressure passage (D). This prevents fluid flow to the rear selective control valve.

With the spool valve out and the inlet passages (C) blocked, pressure rises at the pressure inlet passage (G). Pressure inlet passage (G) is simultaneously connected to extend port (I), allowing pressure inlet passage (G) to open load check (H) and allow oil flow to extend port (I). The load check (H) will keep higher pressure oil in the extend or retract ports (I or F) from back-flowing into the pressure inlet passage (G). With the spool in this position, the sump passage (B) is connected with retract port (F), allowing oil to return to sump.

When spool is moved past neutral, ports reverse flow and connected cylinder moves in the opposite direction.



Thank you very much  
for your reading.  
Please click here  
to get more information.