COLOR-CODED LEVER KNOB
- CONTROLS FOR TRAVELING
- PTO CONTROL
- HYDRAULIC CONTROLS

1. PTO CONTROL
2. HYDRAULIC CONTROL
3. SPEED CONTROL
4. REVERSE LEVER
5. REVERSE LEVER
6. HYDRAULIC CONTROL
7. LEFT HAND THROTTLE
8. CENTER HAND THROTTLE
9. RIGHT HAND THROTTLE
10. CENTER HAND BRAKE
11. RIGHT HAND BRAKE
12. ENGINE STARTER
13. TAILGATE LATCH
14. FOOT PEDAL
15. FOOT PEDAL
16. FOOT PEDAL
17. FOOT PEDAL
Start Engine

1. Parking brake set and locked
2. 324/424 only – Range shift lever [N]
3. Foot off of both drive pedals
4. Push the PTO switch to [OFF]
5. Push the throttle control lever forward from the slow idle position to the 1/3 to 1/2 fast positions
6. Turn the Key switch [START] “Cold start” use glow plugs

* Use the HEAT position in cold weather condition. Refer the Key Switch section for the detail.

Power Take Off (PTO) Operation

7. Select the desired position of the PTO select lever [BOTH/REAR]
8. Pull the PTO switch to [ON]

Mid PTO Reverse Override

9. Push and hold the reverse override switch
10. Press the reverse pedal

** By pressing the reverse pedal with the Mid PTO engaged, PTO will stop automatically for safety if the reverse override switch is not pressed. In this condition, PTO will not be re-engaged even if the operator starts to drive forward again. Turn the PTO switch off to reset the safety circuit then turn the PTO switch on to restart the Mid PTO.

*** Use the reverse override switch to operate the PTO while reversing the tractor.
**** PTO Reverse override is canceled when the reverse pedal is released. Push and hold the PTO reverse override switch again to reactivate the override before pressing the reverse pedal.

Travel Speed Control

1. 324/424 only – Stop the tractor to select the range shift lever [L/H]
2. Parking brake released
3. Push the throttle control lever forward to increase the engine speed.
4. Press or release the drive pedals to adjust the travel speed.

Additional Controls

11. Implement control lever
12. Operator seat forward and backward lever
13. 3-Point Hitch hydraulic flow control/stop knob
14. 2WD/4WD lever
15. 3-point hitch control lever and rear 3-point hitch
16. Differential lock pedal (Standard SA324/424, Option SA221)

Fuel Tank and Fuel Shut-off Valve

Dirt and water in the fuel can damage the engine. Remove dirt and debris from the fuel tank before filling. Ensure the fuel and filling equipment is clean and free of debris. Avoid using fuel containers made of zinc plated steel. A plastic or stainless container is recommended. Fill the fuel tank with fresh diesel fuel. Tank capacity: 6.1 gal (23.0L).

LAMPS & INDICATORS ON METER PANEL

1. Coolant temperature warning light
2. Engine oil pressure warning light*
3. Alternator/battery charging light*
4. Tachometer

Indicates the current engine speed in increments of 100 Revolutions Per Minutes (rpm).
- Engine Rated Speed: 3200 rpm
- Rear PTO Rated RPM 540 rpm at Engine 3120 rpm
- Mid PTO Rated RPM 2000 rpm at Engine 3111 rpm

* The lights 2 and 3 illuminate when the key switch is in ON position and the engine is not running.
Always turn off engine and allow the machine to cool down completely before accessing the engine, muffler, radiator or other hot components.

### Engine Oil Level
Remove the dipstick (A) and wipe the dipstick with a clean rag. Insert the dipstick completely and remove it to check the oil level. If the engine oil level is low, add the specified engine oil from the engine oil filler (B) until the engine oil level is in the operating range on the dipstick.

### Transmission Oil Level
Read the transmission hydraulic oil gauge window (A) on the rear side of the transmission case. The transmission hydraulic oil level should be in the middle of gauge window.

### Air Cleaner
Air cleaner (A) can be accessed without tools. Release the two latch hooks on the air cleaner canister cover and remove the cover. Never wash the filter or attempt to clean the filter by tapping the filter against another object. Apply compressed air from inside of the element to blow away the dust. Clean every 100 hours or if necessary, replace every 1 year or if necessary.

Genuine Parts: 1A8330-05110, ELEMENT ASSY

### Alternator / Fan Belt
Turn off engine and disconnect battery cable for safety. Using the thumb, gently apply pressure to the midpoint (A) of the alternator/fan belt between the pulleys. Check whether the alternator/fan belt deflects inward by approximately 0.4 to 0.6 in. (10 to 15 mm). If the deflection is not as specified, adjust the tension of the alternator/fan belt. Adjust every 50 hours, replace if necessary.

(A) 0.4 to 0.6 in. (10 to 15 mm)
(B) Adjusting bolt
(C) Mounting bolt

Genuine Parts:
25152-003500, V-BELT, A35 (SA221);
25152-003600, V-BELT, A36 (SA324/424)

SAFETY: 1-Engine off. 2-Battery disconnected.

### Radiator Screen & Coolant
**Radiator Screen:** Raise the hood. Pull out the radiator cooling screen (A). Remove straw and dust attached from the radiator cooling screen.

**Coolant:** Check the coolant level of the reservoir tank (B). It should be between the upper and lower limits marked on it when the engine is warm. If the engine is cold, the coolant level must be at the low line on the reserve tank. When necessary, add a pre-diluted coolant with an antifreeze to water ratio that suits the local climate*

### Grease Points
**Extremely Wet or Muddy Conditions:** Lubricate the grease fittings once every 10 operating hours or once a day, whichever comes first.

**All Other Conditions**
Lubricate the grease fittings once every 50 operating hours, whichever comes first.

**Type of grease:** General all-purpose grease NLGI GRADE No.2

(A) Right tie rod end
(B) Left tie rod end
(C) Forward drive pedal rod end
(D) Reverse drive pedal rod end

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*Engine off. Battery disconnected.*
PERIODICAL MAINTENANCE ITEMS

1. Engine Oil Filter Fuel / Water Separator
   - Service interval: Replace after the first 50 and 300 hours, then every 300 hours
   - Genuine part: 119305-35170 FILTER ASSY D68LX65
   - Fuel/Water Separator Service Interval
     Drain every 50 hours, replace every 100 hours or if necessary.
     - Genuine part: 119810-55650 ELEMENT

2. Transmission Filters and Oil
   - SA221
   - Engine Oil Filter
   - Filler Cap
   - Fuel Filter
   - Service interval: Replace after the first 50 and 200 hours, then every 200 hours
   - Genuine part: 41540G (1 gal, SAE15W40)
   - SA324/424
   - Engine Oil Filter
   - Line Filter
   - Transmission Filter
   - Drain Bolt
   - Service interval: Replace after the first 50 and 300 hours, then every 300 hours
   - Genuine part: 198167-24900 FILTER, OIL (Transmission)
   - 198119-48310 FILTER (Line)

3. Front Axle Gear Oil
   - (3.2 QT. / 3.0 L)
   - Check after the first 50 hours, replace every 500 hours
   - Genuine part: SAE90 (1 qt)

4. Fuel Filter
   - Service interval: Replace every 500 hours, or if necessary.
   - Genuine part: 129052-55630 FILTER, FUEL

5. Engine Oil
   - (SA221: 3.1 QT. / 2.9 L)
   - (SA324/424: 3.6 QT. / 3.4 L)
   - Genuine part:
     SA221
     Filler Cap
     Dipstick
     SA324/424
     Filler Cap
     Dipstick
     SA324/424
     Drain bolt
   - 41540G (1 gal, SAE15W40)

6. Coolant
   - (3.0 QT. / 2.8 L)
   - Check after the first 50 hours, replace every 500 hours
   - Genuine part:
     YG30R (1 gal)

7. Transmission Fluid
   - (1 gal)
   - Genuine part:
     TF500A
     Transmission Fluid (1 gal)
     TF500A5G
     Transmission Fluid (5 gal)
     SF500A
     Transmission Fluid (5 gal)

8. Radiator Cap
   - Service interval: Replace every 2 years or 1000 hours
   - Genuine part:
     YG30R (1 gal)

9. Drain Hose Clip
   - Service interval: Replace every 2 years or 1000 hours
   - Genuine part:
     YG30R (1 gal)
Your Yanmar Dealer
This love of the land and a passion for the environment has guided Yanmar for more than 100 years. Our story began with one simple and powerful tenet: “To conserve fuel is to serve mankind.” Yanmar dealers carry on this tradition. For details about Yanmar tractors, genuine parts and service, contact your local YANMAR dealer.

Maintenance kit for SA221, SA324, SA424
Parts code: KIT-SA001

Service Your Tractor
Your Yanmar tractor dealer is committed to provide reliable and quality services to the tractor. Through the preceding services, the full performance potential of the tractor can be realized. When ordering a part or component, always provide the serial numbers of your tractor to your local YANMAR dealer.

Additional Maintenance Items

<table>
<thead>
<tr>
<th>Items</th>
<th>Service Intervals</th>
<th>Genuine Part</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Grille Screen</td>
<td>Clean: Daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiator Cooling Fins</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Battery and Fuses</td>
<td>Replace: If necessary.</td>
<td>1A8160-51500, BATTERY ASSY, 526RMF 198535-52110, FUSE, 5A 198535-52120, FUSE, 10A 198535-52130, FUSE, 15A 1A7450-52180, FUSE, 25A 1A7000-52820, FUSE, SLOW BLOW 60A 198153-51700, FUSE, SLOW BLOW 80A</td>
<td></td>
</tr>
<tr>
<td>Radiator Hoses, Air Intake Hoses, Power Steering Line, Hydraulic Hoses, Fuel Lines</td>
<td>Check: Daily Replace: Every 2 years or if necessary. For replacement, contact local YANMAR dealer for technical assistance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brake Pedal</td>
<td>Check free play daily to make sure it is within 2.9±0.1 in (73±3 mm) For adjustment, contact local YANMAR dealer for technical assistance.</td>
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<td></td>
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