**ENGINE**

- **Model**: F5C E5454 C* A003
- **Emissions Certification**: Non-regulated/Tier 3
- **Type**: Diesel, Turbo – Direct Injection

**Cylinders**: 4

- **Bore/Stroke**: 3.9 x 4.1 in (99 x 104 mm)
- **Displacement**: 195 in³ (3.2 L)
- **Fuel injection**: Direct
- **Fuel**: #2 Diesel
- **Fuel filter**: In-line strainer
- **Oil filtration**: Spin-on/full-flow
- **Air intake**: Turbocharged w/o waste gate
- **Cooling**: Liquid
- **Engine speeds**:
  - High idle – no load: 2675 +/− 75 RPM
  - Rated – full load: 2500 RPM
  - Low idle: 1075 +/− 75 RPM
- **Horserower @ 2500 RPM – SAE J1349**:
  - Gross: 90 hp (67 kW)
  - Net: 84 hp (63 kW)
- **Peak torque @ 1400 RPM**: 251 lb-ft (340 N·m)

**HYDRAULICS**

- **Standard equipment pump type**: Gear

**Displacement**:
- Standard aux.: 2.08 in³ (34.1 cm³)
- High-flow aux.: 1.1 in³ (18.3 cm³)

**Pump flow @ rated engine RPM**: 22.5 gpm (85 L/min)

**Pump flow @ rated engine RPM: @ 100% efficiency**: 22.5 gpm (85 L/min)

**Add-on high flow @ rated engine RPM**: 12.1 gpm (46 L/min)

**Loader control valve**:
- Type: 3 spool/Open center/Series

**DRIVETRAIN**

- **Drive pump controls**: Electro-hydraulic

**Pump to engine ratio**: 1:1

**Displacement**: 2.81 in³ (46 cm³)

**Flow @ rated engine RPM**:
- @ 97% efficiency: 29.4 gpm (111 L/min)
- Charge pressure: 360 +/− 18 psi (24.5 +/− 0.5 bar)

**System relief pressure**: 5,220 psi (350 bar)

**Drive motors**:
- Max. displacement: 2.75 in³ (45 cm³)
- Optional high speed: 34.6 in³ (131 cm³)

**Speed @ high idle engine RPM**:
- 100% efficiency @ rated engine RPM: 103
- Speed @ optional high speed RPM: 156

**Torque @ max. displacement and relief pressure**:
- Calculated, 5,003 psi (345 bar)

**Final drive**:
- Planetary reduction

**PARKING BRAKE**

- Type: Spring-applied, hydraulic release disc
- Engagement:
  - Depress on/off brake button on handle or instrument panel, raise seat bar, get off seat or stop engine

**HYDRAULIC FILTER**

- Type: 3 micron/Spin-on

**OPERATING WEIGHT**

- **Operating weight**: 9,600 lb (4,355 kg)
- **Shipping weight**: 9,265 lb (4,200 kg)
- **Add-on weights**:
  - Side cab glass: 47 lb (21.3 kg)
  - Lexan® door: 74 lb (33.6 kg)
  - Glass door w/ wiper: 134 lb (60.8 kg)
  - Suspension seat: 22 lb (10.0 kg)

**SERVICE CAPACITIES**

- **Fuel Tank**: 25.5 gal (96.5 L)
- **Engine oil w/ filter**: 10.0 qt (9.4 L)
- **Hydraulic system**:
  - Reservoir: 7 gal (26.5 L)
  - Total: 11.75 gal (44.5 L)

**Electrical**

- **Alternator**: 120 amp
- **Battery**: 925 cold-cranking amps @ 0° F (-18° C)
- **Rated – full load**: 2500 RPM
- **High idle – no load**: 2675 RPM

**Warning alarms**:
- Battery voltage – plus display; Oil service

**HYDRULICS**

- **Standard equipment pump type**: Gear

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**Pump flow @ rated engine RPM: @ 100% efficiency**: 22.5 gpm (85 L/min)

**Add-on high flow @ rated engine RPM**: 12.1 gpm (46 L/min)

**Loader control valve**:
- Type: 3 spool/Open center/Series

**Relief pressure**: 3,000 (+145/-0) psi (207 bar)

**Port relief pressures**:
- Loader raise: 3,263 psi (225 bar)
- Bucket dump: 3,770 psi (260 bar)
- Bucket curl: 1,160 psi (80 bar)

**Hydraulic lines**:
- Tubing: 37° JIC Flare
- Loop hoses: SAE 100 R13

**Hydraulic oil cooler**:
- Number of fins: 10 per inch (3.94 per cm)
- Number of tubes: 11
- Area: 105.7 in² (843 cm²)

**Hydraulic filter**:
- Type: 6 micron/Spin-on

**Lift cylinders**:
- Bore diameter: 2.75 in (69.85 mm)
- Rod diameter: 1.75 in (44.5 mm)
- Stroke: 32.2 in (817.9 mm)

**Closed length**: 45.6 in (1,158 mm)

**Bucket cylinders**:
- Bore diameter: 3.0 in (76.2 mm)
- Rod diameter: 1.5 in (38.1 mm)
- Stroke: 16.14 in (410.0 mm)
- Closed length: 24.0 in (610.0 mm)

**OPERATOR ENVIRONMENT**

- **Enclosed Cab w/ Heater and AC**: Fully sealed and pressurized – FSP; Glass door w/ washer and wiper; Sliding side windows – removable; Heater and air conditioner; AM/FM radio w/ 2 speakers; Keyless start ignition; Tilt ROPS/FOPS; Rear window w/ emergency escape; Deluxe cloth, air suspension seat, w/ 2 in (51 mm) retractable 3 point lap seat belt w/ heater and lumbar support; Hand and foot throttles; Alarm package – back-up and horn; Headlight; Dome Light; Top window; Cup holder; 12V Power plug socket; Foot rest; Seat pocket; Padded seat bar w/ integral armrests; Loader control lockout system; Electric parking brake control; Operator’s compartment floor cleanout; Proportional auxiliary hydraulic control – on joystick; Advanced Instrument Cluster w/ digital hour meter, tachometer, Fuel level LCD bar graph w/ alarm, diagnostic features and security lockout.

**Warning lights with alarms**:
- Engine coolant temperature; Engine oil pressure; Engine malfunction; Hydraulic charge pressure; Hydraulic filter restriction; Hydraulic oil temperature; Critical system stop; Engine system, Hydraulic system, Electrical and diagnostic system.
DIMENSIONS

A. Overall operating height:
   - with foundry/excavating bucket short lip 157.8 in (4.01 m)
   - with low profile/standard lip bucket 161.8 in (4.11 m)
   - with low profile extended/long lip bucket 166.8 in (4.24 m)

Height to:
B. Bucket hinge pin 126.5 in (3.22 m)
C. Top of ROPS 80.4 in (2.04 m)
D. Bottom of level bucket, fully raised 119.6 in (3.04 m)

Overall length:
E. without attachment with coupler 117.4 in (2.98 m)
F. with foundry/excavating bucket on ground
   - with low profile bucket 142.2 in (3.61 m)
   - with low profile extended bucket 146.2 in (3.71 m)
   - with low profile extended bucket 151.3 in (3.84 m)

G. Dump angle 38.1°

H. Dump height:
   - with foundry/excavating bucket short lip 102.4 in (2.60 m)
   - with low profile/standard lip bucket 99.9 in (2.54 m)

I. Dump reach – max. height 21.6 in (0.55 m)

Maximum attachment rollback:
J. Bucket on ground 29.7°
K. Bucket at full height 99.7°

L. Track on ground 64.5 in (1.60 m)

M. Ground clearance – bottom of belly pan 9.5 in (0.24 m)

N. Angle of departure 32.0°

Clearance circle:
O. without bucket 55.1 in (1.40 m)
P. with 78 in (2.0 m) foundry/excavating bucket in carry position
   - with 78 in (2.0 m) low profile bucket on ground 88.7 in (2.25 m)
   - with 78 in (2.0 m) extended low profile on ground 93.0 in (2.36 m)
Q. Clearance circle rear 70.4 in (1.79 m)
R. Track width 58.3 in (1.48 m)
S. Over the track width 76.0 in (1.93 m)

PERFORMANCE SPECS

Rated operating load:
- 35% of tipping load 2,240 lb (1018 kg)
- 50% of tipping load 3,200 lb (1451 kg)
- Tipping load 6,400 lb (2902 kg)

Breakout forces – calculated @ 3,150 psi:
- Bucket cylinder-tip 8,700 lb (38.7 kN)
- Lift cylinders 7,760 lb (34.5 kN)

Cycle times:
- Raise 4.5 sec
- Lower 2.7 sec
- Dump 2.7 sec
- Roll back 2.0 sec

Line drawings are for illustrative purpose only and may not be exact representation of unit.
### TRACK SELECTION

<table>
<thead>
<tr>
<th>Type</th>
<th>Area</th>
<th>Ground Pressure</th>
<th>Width to Outside of Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.7 in (400 mm)</td>
<td>2,038 in² (13 120 cm²)</td>
<td>4.2 psi (29 kPa)</td>
<td>74 in (1.88 m)</td>
</tr>
<tr>
<td>17.7 in (450 mm)</td>
<td>2,293 in² (13 776 cm²)</td>
<td>4.3 psi (29.7 kPa)</td>
<td>76 in (1.93 m)</td>
</tr>
</tbody>
</table>

### OPTIONAL BUCKETS

<table>
<thead>
<tr>
<th>Type</th>
<th>Width</th>
<th>Weight</th>
<th>Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dirt &amp; Foundry</td>
<td>78 in (1.98 m)</td>
<td>440 lb (200 kg)</td>
<td>17.7 ft³ (0.50 m³)</td>
</tr>
<tr>
<td>Low Profile Extended</td>
<td>78 in (1.98 m)</td>
<td>540 lb (245 kg)</td>
<td>19.1 ft³ (0.54 m³)</td>
</tr>
<tr>
<td></td>
<td>84 in (2.13 m)</td>
<td>607 lb (275 kg)</td>
<td>20.2 ft³ (0.57 m³)</td>
</tr>
<tr>
<td>Light Material</td>
<td>84 in (2.13 m)</td>
<td>540 lb (245 kg)</td>
<td>27.5 ft³ (0.78 m³)</td>
</tr>
<tr>
<td>Manure &amp; Slurry</td>
<td>84 in (2.13 m)</td>
<td>545 lb (248 kg)</td>
<td>22.6 ft³ (0.64 m³)</td>
</tr>
<tr>
<td>Heavy-Duty</td>
<td>78 in (1.98 m)</td>
<td>530 lb (240 kg)</td>
<td>15.5 ft³ (0.44 m³)</td>
</tr>
<tr>
<td></td>
<td>84 in (2.13 m)</td>
<td>758 lb (344 kg)</td>
<td>25.7 ft³ (0.47 m³)</td>
</tr>
</tbody>
</table>

### STANDARD EQUIPMENT

#### OPERATOR ENVIRONMENT

See page 1

#### ENGINE

F5C E5454 C'A003
195 CID (3.2 L) Turbo
Non-regulated
Tier 3
Turbocharged without waste gate fuel injection

Horsepower:
- Gross: 90 hp (67 kW)
- Net: 84 hp (63 kW)
- Peak torque 251 lb-ft (340 N·m)
120 amp alternator
Dual element air cleaner
Organic Acid Technology (OAT)
Anti-freeze solution to -34º F
Fuel tank - 25.5 gal (U.S.)
Over and under radiator and oil cooler
3-stack after cooler/radiator/oil cooler configuration
Glow plugs
Integral engine oil cooler
Fuel filter with water trap
1,000 CCA 12V battery
Master electrical disconnect

#### DRIVETRAIN

2-speed hydrostatic four wheel drive
SAHR disc parking brake

#### HYdraulics

Auxiliary hydraulics:
- @ 3,050 psi (210 bar) – 23.8 gpm (90.0 L/min)
6 micron oil filtration system
3-spool loader control valve
Auxiliary hydraulic disconnects, ISO flat-face – connect-under-pressure with case drain
Hydraulic circuit pedal lock
Auxiliary function lockout override
Loader lift lockout override
Heavy-duty hydraulic oil cooler
Loader arm float position
Loader function lockout system
Hydraulic one-way self-leveling Ride control

#### LOADER

Heavy duty hydraulic attachment coupler
Radial lift geometry
Loader lift arm support strut
SAE operating load: 3,400 lbs
Tipping load: 6,800 lbs

#### TRACKS

HiQual S-Wave Tracks

#### OTHER STANDARD FEATURES

Halogen lights - 2 front, 2 side, 2 rear flood
Heavy duty front lights
Pre-wired for rotating beacon
Lockable service access hood
Single-point daily servicing
Rear tail lights
Remote oil drain
Remote oil and fuel filters
Block heater
Debris ingestion sealing
Machine protection auto shutdown
Mounting points for add-on counterweights
OPTIONAL EQUIPMENT

OPERATOR ENVIRONMENT

- ROPS/FOPS Level 1 canopy with side screens
- Keyed start ignition
- Ventilation system with integrated heater
- Mechanical hand controls
  - Hand controls the loader drive function and foot controls the bucket and boom
- Non suspension seat
- Suspension seat, vinyl
- Open cab interior trim package
- Demolition cab door with polycarbonate FOPS level 2
- Heavy duty rear door

HYDRAULICS

- High-flow auxiliary hydraulics – combined:
  - @ 3,050 psi (210 bar) – 33.2 gpm (126 L/min)
- Enhanced High-flow auxiliary hydraulics – EHF:
  - @ 4,000 psi (276 bar) – 35.0 gpm (132.5 L/min)
- Second auxiliary hydraulics

LOADER

- Auxiliary front electric control
- Manual attachment coupler

OTHER

- Language decals
- Factory-installed tires – see page 3
- Buckets – see page 3
- Bolt-on bucket cutting edges
- Bolt-on heavy-duty bucket spill guard
- Special paint
- Offsite service arrangement
- Telematics

FACTORY SUPPLIED ATTACHMENTS

- Interior mirror
- Add-on counterweights
- Road lights
- Rotating beacon
- Four-corner LED strobe
- Bolt-on heavy-duty bucket teeth
- 48 in (1.22 m) pallet forks

SERVICE PARTS

- 3 inch (76.2 mm) retractable seat belt

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