A TEREX BRAND

Service Manual

Serial Number Range

GTH-2506
(Deutz Stage IIIA - IIIB)

From GTH250614-101
to GTH250619M-1000

GTH-3007
(Deutz Stage IIIA - IIIB)

From GTH300716M-101
to GTH300719M-500

Part No. 57.4400.9214
Rev C
July 2018

TABLE OF CONTENTS

SPECIFICATIONS

Comer Axles

Steering	Integrated steer cylinder
Joints	Heavy duty double U-joints
Steering angle, maximum	40 °
Front Axle Lubrication	
Front differential	6.34 quarts 6 liters
Axle planetary end (each)	1 quart 0.95 liters
Drop Box Lubrication	
Drop Box	0.26 gallons 1 liters
Rear Axle Lubrication	
Rear differential	6.34 quarts 6 liters
Axle planetary end (each)	1 quart 0.95 liters
Oil viscosity requirements	
Differential	API GL5 (MIL L-2105)
Planetary ends	API GL5 (MIL L-2105)
For additional axle information, refer to the ***Comer Axle S128 Service Manual***	
Comer Axle Service Manual	
Genie part number	57.4700.0020

Dana Axles

Steering	Integrated steer cylinder
Joints	Heavy duty double U-joints
Steering angle, maximum	40 °
Front Axle Lubrication	
Front differential	6.34 quarts 6 liters
Axle planetary end (each)	1 quart 0.95 liters
Drop Box Lubrication	
Drop Box	0.26 gallons 1 liters
Rear Axle Lubrication	
Rear differential	6.34 quarts 6 liters
Axle planetary end (each)	1 quart 0.95 liters
Oil viscosity requirements	
Differential	API GL5 (MIL L-2105)
Planetary ends	API GL4 or GL5 (MIL L-2105)
For additional axle information, refer to the ***Dana Axle Service Manual***	
Dana Axle Service Manual	
Genie part number	57.4700.0026

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

A-4
Lubricate the Boom

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Greasing the specified locations is essential for good machine performance and service life. Operating the machine with little or no grease may cause the machine to perform poorly and continued use may cause component damage.

1 Fully extend and raise the boom, then retract the boom, checking to insure it operates smoothly. There should be a light film of lubricant on wear pad contact surfaces.

⊙ Result: Boom operates smoothly and a thin film of lubricant is visible. Proceed to step 4.

⊠ Result: Boom does not extend or retract smoothly and no lubricant is visible on wear pad contact surfaces. Proceed to step 2.

2 Apply a thin layer of grease to the underside of the number 2 boom tube where it makes contact with the number 1 boom tube lower wear pads.

3 Lubricate the top and side boom tube wear pads.

4 Return the boom to the stowed position.

Grease Specification	
MASCHERPA GR 529 GREASE	
Genie part number	09.4693.0007

A-5
Perform Engine Maintenance

Engine specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Deutz TD 2.9 L4
Lubricating oil level - check/add
Coolant level - check/add
Visual inspection
Suction air filter/dry air filter - check
Fuel pre-filter - check/empty water

Only for Deutz TD 2.9 L4 - Stage IIIB
Exhaust system including exhaust aftertreatment components - check for leaks

Required maintenance procedures and additional engine information is available in the ***Deutz TD 2.9 L4 Operation and Maintenance Manual*** (Deutz part number 0312 3893).

Deutz TD 2.9 L4 Operation and Maintenance Manual	
Genie part number	57.4700.0006

Checklist D Procedures

D-1
Inspect the Forks

Genie specifications require that this procedure be performed every 1000 hours or annually, whichever comes first OR whenever permanent deformation of the forks is suspected.

Maintaining the lifting forks in good condition is essential to safe operation and good machine performance. Failure to detect damage to the forks could result in a hazardous operating condition.

1 Thoroughly clean the lifting forks.

2 Inspect the forks for the following:
- Surface cracks
- Straightness of the blade and shank
- Fork angle at 90 ± 3 degrees
- Relative height of fork tips shall not differ more than 3% of blade length
- Excessive wear to the forks, fork mount or legible markings

☒ Result: If any of the above criteria are not met, forks shall be removed from service until they are repaired or replaced.

a - shank
b - blade

How to Remove the Boom

⚠WARNING Bodily injury hazard. This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools could result in death or serious injury and significant component damage. Dealer service is strongly recommended.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end must be replaced and then torqued to specification during installation. Refer to Section 2, ***Hydraulic Hose and Fitting Torque Specifications***.

1 Remove the forks from the boom.

2 Disconnect the electric cables from the boom, if present.

3 Lift the boom until the pin locking the lift cylinder is in a position above the cab roof.

4 Place a stand under the lift cylinder to properly support it once the pin connecting the cylinder to the boom will be removed.

5 Attach a lifting strap from an overhead crane to the fork support and slightly lift the boom. Do not apply any lifting pressure.

6 Attach a second strap from the overhead crane to the lifting cylinder, rod side, and put some tension on it.

7 Using a soft metal drift, remove the slave cylinder locking pin from the boom support.

⚠DANGER Crushing hazard. The cylinder will fall if not properly supported when the pivot pin is removed from the machine.

8 Flip the slave cylinder towards the cab.

9 Using a soft metal drift, remove the lift cylinder locking pin, boom side.

10 Operate the 2 overhead cranes at the same time to lower the boom being careful to rest the lift cylinder onto the support previously placed underneath, and the boom tip onto another stand positioned to support the front part of the boom.

11 Hook the 3 lifting points and then slowly lift the boom.

12 Tag, disconnect and plug the hydraulic hoses that go to the extend, retract, fork tilt and fork leveling cylinders, and the quick coupling cylinder (if equipped).

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

13 Using a soft metal drift, remove the pin securing the boom to the machine.

⚠DANGER Crushing hazard. The boom will fall if not properly supported when the pivot pin is removed from the machine.

14 Carefully remove the boom assembly from the machine and place it on a structure capable of supporting it.

8 Securely attach a resistant guide rope (length about 33 feet / 10 m) to the hydraulic hose. This will be used to install the new double-hose.

9 Reach the back of the machine and remove the cover.

10 Pull the double hose "**e**" outward until it comes out completely.

11 Move to the front of the boom and tag, disconnect and plug the hydraulic hoses from the pipes.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

12 Pull hoses "**e**" outward until it comes out completely.

13 Remove the rope from the old hydraulic hoses and attach it to the new hydraulic double-hose (straight end side).

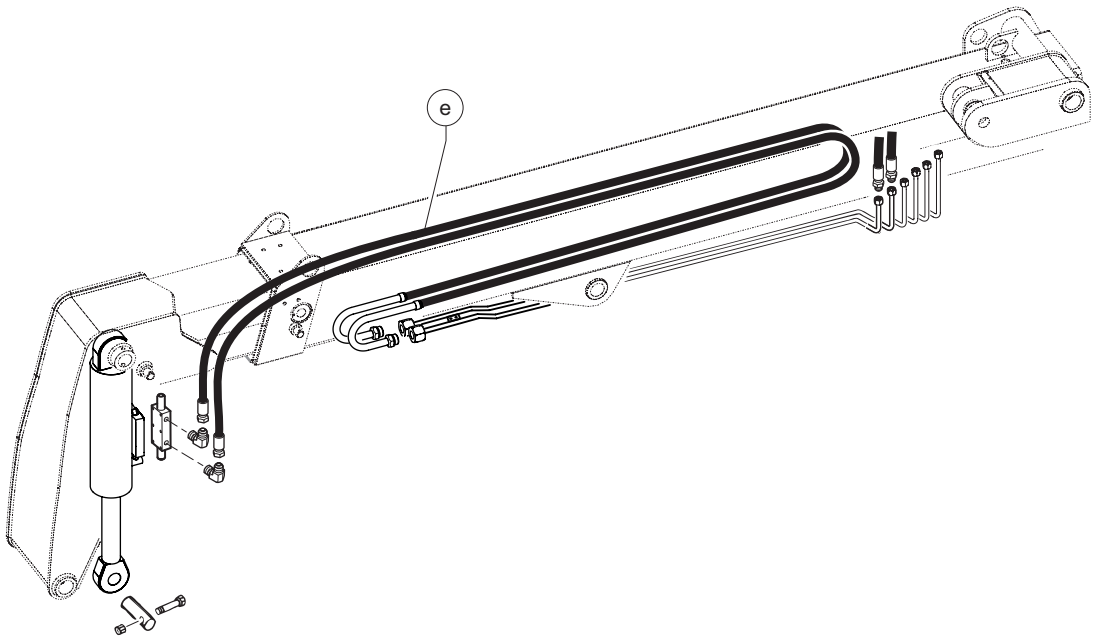
14 Install the hoses "**e**" from underneath the boom: pull them from the rear side of the boom.

15 Connect the ends of the new double-hose to the pipes.

16 Install the hoses "**e**" from behind the boom: pull them from the front side of the boom to connect the straight ends to the shut-off valve.

NOTICE Component damage hazard. Hoses can be damaged if they are kinked or pinched.

17 Start the engine, and extend and retract the boom. Verify that there are no abnormal tensions on the hoses.



Axle

5-1
Disabled Machine

How to Move a Disabled Machine

⚠WARNING Tow the machine only when no alternative is possible, since this operation may result in serious damage to the transmission. When possible, repair the machine on site.

When the machine shall absolutely be towed and the front axle can be lifted:

1 Chock the wheels.

2 Remove the fasteners securing the driveshaft to the axle. Remove the driveshaft from the machine.

3 Remove the chocks from the wheels.

4 Unlock the parking brake.

5 Select two wheel steer mode.

6 Set the transmission lever in the neutral position.

7 Raise the front wheels of the machine.

⚠WARNING Tow the machine for short distances and at a low speed only (less than 3 mph).

When the machine shall absolutely be towed and the front axle can NOT be lifted:

1 Use a rigid drawbar.

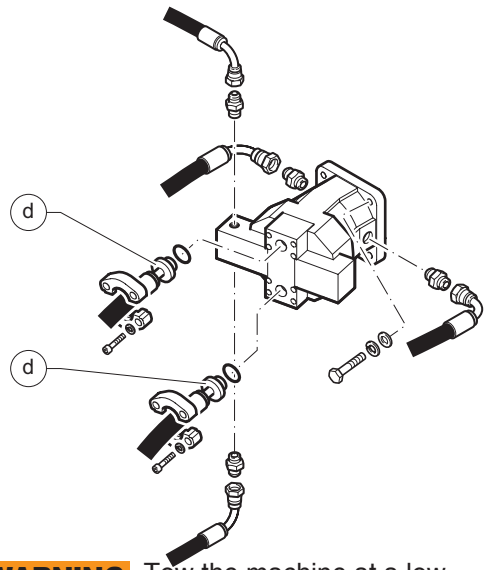
2 Unlock the parking brake.

3 Select two wheel steer mode.

4 Set the transmission lever in the neutral position.

5 Unlock the negative brake as described on the next page.

6 If the **towing distance is less than 164 ft / 50m**, disconnect the high pressure hoses "d" between pump and hydraulic motor.



⚠WARNING Tow the machine at a low speed only (less than 1.85 mph / 3 km/h). The motor can be damaged if it runs without oil for a greater distance.

How to Install the Hydrostatic Transmission Pump

⚠WARNING Bodily injury hazard. This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools could result in death or serious injury and significant component damage. Dealer service is strongly recommended.

Note: When removing a hose assembly or fitting, the fitting and/or hose end must be torqued to specification during installation. Refer to Section 2, ***Hydraulic Hose and Fitting Torque Specifications***.

Note: Perform this procedure with the engine off and cool to the touch.

1 Open the engine compartment.

2 Remove the cover that is under engine.

3 Place a suitable support for the pump to install it from the bottom.

4 Install the hydrostatic transmission pump on the engine.

5 Remove the fitting caps from the hydrostatic transmission pump.

6 Remove the hoses caps.

7 Connect the hoses to the pump.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

8 Connect the harness to the transmission pump.

9 Install the boom and steering function pump on the hydrostatic transmission pump.

10 Start the engine and prime the pump. See 6-2, ***How to Prime the Hydrostatic Transmission Pump***.

11 Inspect for leaks.

12 Adjust the pump pressure. See 6-2, ***How to test the Hydrostatic Transmission Pump***.

LMI

3 It means that the axle must see high shocks before calibration.

4 We suggest driving fast 10 times on a beam fixed to the ground.

5 After this operation, it is recommended to let the machine set unused for 12 hours before calibration.

FAULT CODES

SPN	FMI	Short Text Detail
975	4	Fan actuator (PWM output); short circuit to ground
1639	0	Sensor error fan speed; signal range check high
1639	1	Sensor error fan speed; signal range check low
523602	0	High fan speed; warning threshold exceeded
523602	0	High fan speed; shut off threshold exceeded
97	3	Sensor error water in fuel; signal range check high
97	4	Sensor error water in fuel; signal range check low
94	3	Sensor error low fuel pressure; signal range check high
94	4	Sensor error low fuel pressure; signal range check low
94	1	Low fuel pressure; warning threshold exceeded
94	1	Low fuel pressure; shut off threshold exceeded
174	0	High low fuel temperature; warning threshold exceeded
174	0	High Low fuel temperature; shut off threshold exceeded
523619	2	Physical range check high for exhaust gas temperature upstrem (SCR-CAT)
523915	0	HCl dosing valve (DV1); overcurrent at the end of the injection phase
523915	12	HCl dosing valve (DV1); powerstage over temperature
523915	3	HCl dosing valve (DV1); short circuit to battery
523915	3	HCl dosing valve (DV1); short circuit to battery high side
523915	4	HCl dosing valve (DV1); short circuit to ground
523915	11	HCl dosing valve (DV1); short circuit high side powerstage
523916	2	Sensor HCl dosing valve (DV1) downstream pressure; plausibility error
523916	0	Physical range check high for HCl dosing valve (DV1) downstream pressure; shut off regeneration
523916	1	Physical range check low for HCl dosing valve (DV1) downstream pressure; shut off regeneration
523916	3	Sensor error HCl dosing valve (DV1) downstream pressure; signal range check high
523916	4	Sensor error HCl dosing valve (DV1) downstream pressure; signal range check low
523917	2	Sensor DV1 & DV2 upstream pressure; plausibility error
523917	0	Physical range check high for DV1 & DV2 upstream pressure; shut off regeneration
523917	1	Physical range check low for DV1 & DV2 upstream pressure; shut off regeneration
523917	3	Sensor error DV1 & DV2 upstream pressure; signal range check high
523917	4	Sensor error DV1 & DV2 upstream pressure; signal range check low
523918	2	Sensor DV1 & DV2 upstream temperature; plausibility error
523918	0	Physical range check high for DV1 & DV2 upstream temperature; shut off regeneration
523918	1	Physical range check low for DV1 & DV2 upstream temperature; shut off regeneration
523918	3	Sensor error DV1 & DV2 upstream temperature; signal range check high

FAULT CODES

SPN	FMI	Short Text Detail
523612	12	Internal software error ECU
175	2	Customer oiltemperature: signal unplausible
523973	14	SCR Tamper detection; derating timer below limit 1
523974	14	SCR Tamper detection; derating timer below limit 2
523975	14	Urea quality; derating timer below limit 1
523976	14	Urea qulaity; derating timer below limit 2
523977	14	Urea tank level; derating timer below limit 1
523978	14	Urea tank level; derating timer below limit 2
168	0	Physikal range check high for battery voltage
168	1	Physikal range check low for battery voltage
172	0	Physical range check high for intake air temperature
172	1	Physical range check low for intake air temperature
523980	14	Bad quality of reduction agent detected
523922	12	Over temperature error on burner shut of valve
1180	0	Physical range check high for exhaust gas temperature upstream turbine
1180	1	Physical range check low for exhaust gas temperature upstream turbine
523914	5	Glow plug control release line; short circuit error
523914	11	Glow plug control; internal error
524018	14	DPF wasn´t regenerated, power reduction phase 1 (manuell regeneration request)
524022	14	DPF wasn´t regenerated, power reduction phase 2 (manuell regeneration request)
524023	14	DPF wasn´t regenerated, warning condition (manuell regeneration mode)
190	14	Camshaft-and Crankshaft speed sensor signal not available on CAN
51	5	Actuator EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); open load
51	6	Actuator EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); over current
51	12	Actuator EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); over temperature
51	3	EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); short circuit to battery (A02)
51	3	EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); short circuit to battery (A67)
51	4	EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); short circuit to ground (A02)
51	4	EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); short circuit to ground (A67)
51	6	Actuator error EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); Overload by short-circuit
51	11	Actuator error EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); Power stage overtemperature due to high current
51	4	Actuator error EGR-Valve (2.9;3.6) or Throttle-Valve (6.1,7.8); Voltage below threshold
523988	5	Charging lamp; open load
523988	12	Charging lamp; over temperature

FAULT CODES

SPN	FMI	Short Text Detail
656	3	Injector 6 (in firing order); short circuit
656	4	High side to low side short circuit in the injector 6 (in firing order)
656	5	Injector 6 (in firing order); interruption of electric connection
676	11	Cold start aid relay error.
676	11	Cold start aid relay open load
677	3	Starter relay high side; short circuit to battery
677	3	Starter relay low side; short circuit to battery
677	4	Starter relay high side; short circuit to ground
677	4	Starter relay low side; short circuit to ground
677	5	Starter relay; no load error
677	12	Starter relay; powerstage over temperature
703	3	Engine running lamp; short circuit to battery
703	4	Engine running lamp; short circuit to ground
703	5	Engine running lamp; open load
703	12	Engine running lamp; powerstage over temperature
729	5	Cold start aid relay open load
729	12	Cold start aid relay; over temperature error
898	9	Timeout Error of CAN-Receive-Frame TSC1TE; Setpoint
975	3	Digital fan control; short circuit to battery
975	3	Fan actuator (PWM output); short circuit to battery
975	4	Digital fan control; short circuit to ground
975	4	Fan actuator (PWM output); short circuit to ground
975	5	Digital fan control; open load
975	5	Fan actuator (PWM output); open load
975	12	Digital fan control; powerstage over temperature
975	12	Fan actuator (PWM output); powerstage over temperature
1079	13	Sensor supply voltage monitor 1 error (ECU)
1080	13	Sensor supply voltage monitor 2 error (ECU)
1109	2	Engine shut off demand ignored
1136	0	Physikal range check high for ECU temperature
1136	1	Physikal range check low for ECU temperature
1136	3	Sensor error ECU temperature; signal range check high
1136	4	Sensor error ECU temperature; signal range check low
1176	3	Sensor error pressure sensor upstream turbine; signal range check high

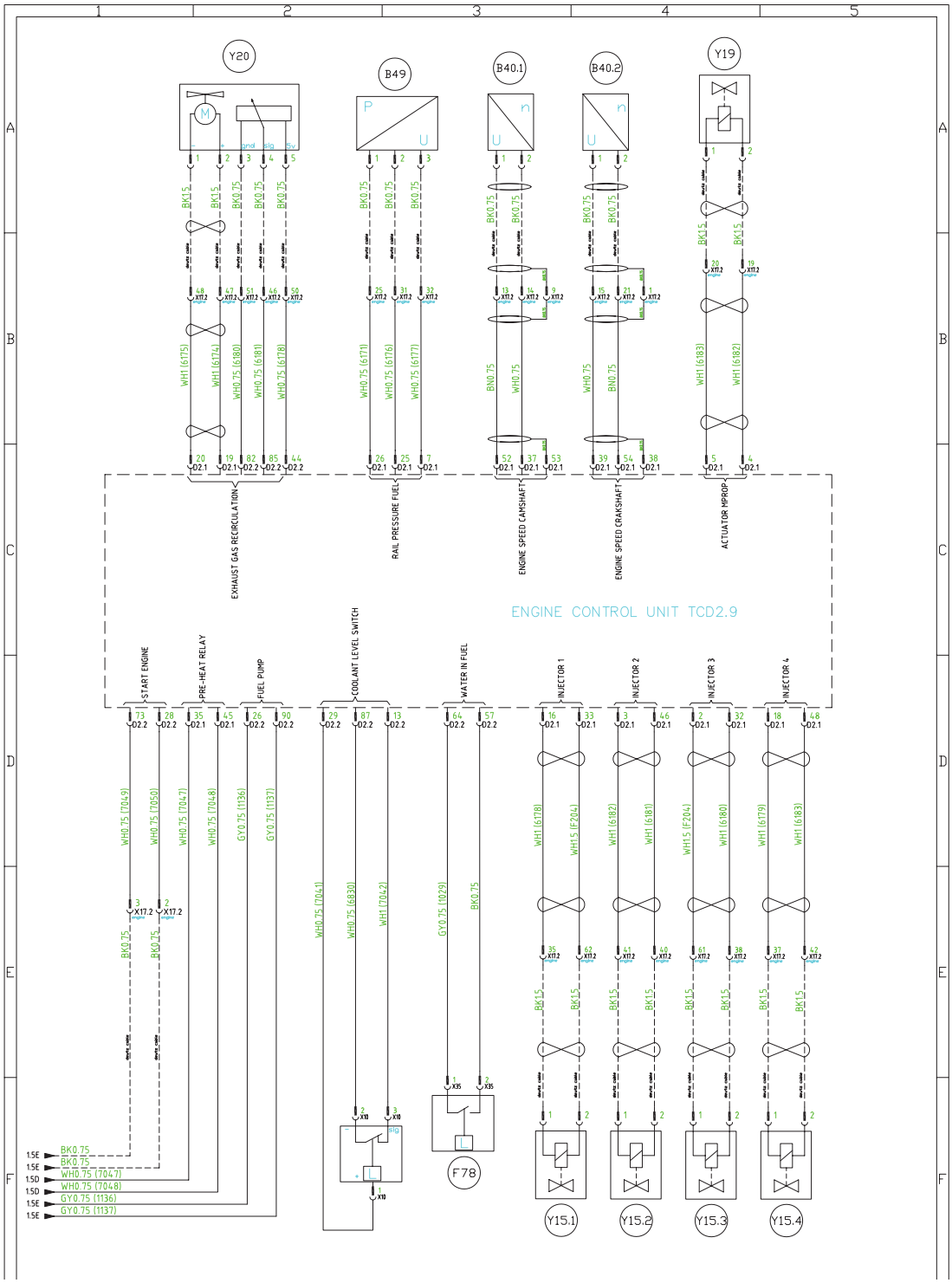
FAULT CODES

SPN	FMI	Short Text Detail
523915	7	HCl dosing valve (DV1); blocked closed
523915	7	HCl dosing valve (DV1); blocked open
523915	11	HCl dosing valve (DV1); short circuit high side powerstage
523915	12	HCl dosing valve (DV1); powerstage over temperature
523916	0	Physical range check high for HCl dosing valve (DV1) downstream pressure; shut off regeneration
523916	1	Physical range check low for HCl dosing valve (DV1) downstream pressure; shut off regeneration
523916	2	Sensor HCl dosing valve (DV1) downstream pressure; plausibility error
523916	3	Sensor error HCl dosing valve (DV1) downstream pressure; signal range check high
523916	4	Sensor error HCl dosing valve (DV1) downstream pressure; signal range check low
523917	0	Physical range check high for DV1 & DV2 upstream pressure; shut off regeneration
523917	1	Physical range check low for DV1 & DV2 upstream pressure; shut off regeneration
523917	2	Sensor DV1 & DV2 upstream pressure; plausibility error
523917	3	Sensor error DV1 & DV2 upstream pressure; signal range check high
523917	4	Sensor error DV1 & DV2 upstream pressure; signal range check low
523918	0	Physical range check high for DV1 & DV2 upstream temperature; shut off regeneration
523918	1	Physical range check low for DV1 & DV2 upstream temperature; shut off regeneration
523918	2	Sensor DV1 & DV2 upstream temperature; plausibility error
523918	3	Sensor error DV1 & DV2 upstream temperature; signal range check high
523918	4	Sensor error DV1 & DV2 upstream temperature; signal range check low
523919	0	Physical range check high for airpump pressure; shut off regeneration
523919	1	Physical range check low for airpump pressure; shut off regeneration
523919	2	Sensor airpump pressure; plausibility error
523919	2	Sensor air pump airpressure; plausibility error
523919	3	Sensor error airpump pressure; signal range check high
523919	4	Sensor error airpump pressure; signal range check low
523920	0	Physical range check high for exhaustgas back pressure burner; shut off regeneration
523920	1	Physical range check low for exhaustgas back pressure burner; shut off regeneration
523920	2	Sensor exhaustgas back pressure; plausibility error
523920	2	Sensor exhaust gas back pressure burner; plausibility error
523920	3	Sensor error exhaustgas back pressure burner; signal range check high
523920	4	Sensor error exhaustgas back pressure burner; signal range check low
523921	0	Physical range check high for burner temperature
523921	1	Physical range check low for burner temperature
523921	2	Sensor burner temperature; plausibility error

ELECTRICAL SCHEMATIC

GTH-2506 From GTH250614-101 To GTH250616M-244

Sheet 3 of 9



ELECTRICAL SCHEMATIC

GTH-2506 From GTH250616M-245 To GTH250616M-422 ***Sheet 4 of 9***