Cat® C18 DIESEL GENERATOR SETS

Standby & Prime: 60Hz

Image shown might not reflect actual configuration

Engine Model	Cat® C18 ATAAC™ In-line 6, 4-cycle diesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.13 L (1106.3 in^3)
Compression Ratio	14:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	Electronic Unit Injection
Governor	Electronic ADEM™ A4

Model	Standby	Prime	Emission Strategy
C18	**750 ekW, 938 kVA**	**680 ekW, 850 kVA**	**EPA TIER II**

PACKAGE PERFORMANCE

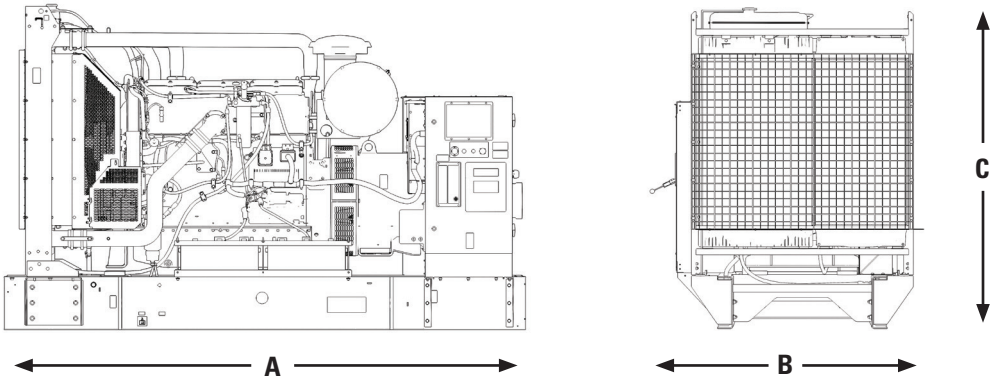
Performance	Standby	Prime
Frequency	60 Hz	
Genset Power Rating	938 kVA	850 kVA
Genset power rating with fan @ 0.8 power factor	750 ekW	680 ekW
Emissions	EPA TIER II	
Performance Number	EM3842	EM3843
Fuel Consumption		
100% load with fan, L/hr (gal/hr)	205.5 (54.2)	188.5 (49.7)
75% load with fan, L/hr (gal/hr)	164.3 (43.4)	146.3 (38.6)
50% load with fan, L/hr (gal/hr)	108.9 (28.7)	100.3 (26.5)
25% load with fan, L/hr (gal/hr)	63.5 (16.7)	59.4 (15.6)
Cooling System[1]		
Radiator air flow restriction (system), kPa (in. Water)	0.12 (0.48)	0.12 (0.48)
Radiator air flow, m^3/min (cfm)	900 (31783)	900 (31783)
Engine coolant capacity, L (gal)	20.8 (5.5)	20.8 (5.5)
Radiator coolant capacity, L (gal)	77 (20.3)	77 (20.3)
Total coolant capacity, L (gal)	97.8 (25.8)	97.8 (25.8)
Inlet Air		
Combustion air inlet flow rate, m^3/min (cfm)	67.3 (2376)	65.6 (2316)
Max. Allowable Combustion Air Inlet Temp, °C (°F)	49 (120)	49 (120)
Exhaust System		
Exhaust stack gas temperature, °C (°F)	452.9 (847.2)	432.9 (811.2)
Exhaust gas flow rate, m^3/min (cfm)	170.7 (6028)	161 (5686)
Exhaust system backpressure (maximum allowable) kPa (in. water)	10.0 (40.0)	10.0 (40.0)
Heat Rejection		
Heat rejection to jacket water, kW (Btu/min)	225 (12795)	208 (11828)
Heat rejection to exhaust (total) kW (Btu/min)	714 (40604)	664 (37761)
Heat rejection to aftercooler, kW (Btu/min)	272 (15468)	253 (14387)
Heat rejection to atmosphere from engine, kW (Btu/min)	142 (8075)	123 (6995)

Cat® C18 DIESEL GENERATOR SETS

Emissions (Nominal)[2]	Standby	Prime
NOx, mg/Nm³ (g/hp-hr)	2468 (5.42)	2213 (4.91)
CO, mg/Nm³ (g/hp-hr)	100.1 (0.22)	75.6 (0.17)
HC, mg/Nm³ (g/hp-hr)	23.5 (0.06)	24.1 (0.06)
PM, mg/Nm³ (g/hp-hr)	11.7 (0.03)	10.6 (0.03)

Alternator[3]					
Voltages	**208V**	**220V**	**240V**	**480V**	**600V**
Motor starting capability @ 30% Voltage Dip	1917 skVA	2129 skVA	2501 skVA	2512 skVA	2512 skVA
Current	2602.2 amps	2460.3 amps	2512 amps	1127.6 amps	902.1 amps
Frame Size	LC7224N	LC7224L	LC7224L	LC7224L	LC7224L
Excitation	AREP	AREP	AREP	AREP	AREP
Temperature Rise	130 °C	130 °C	130 °C	105 °C	130 °C

WEIGHTS & DIMENSIONS



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
3512 (138)	**1746 (69)**	**2322 (92)**	**4863 (10721)**

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.
Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

PRIME: Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

DEFINITIONS AND CONDITIONS

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

[3] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

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LEHE1772-04 (05/20)

Pi cture shown may not reflect actual configuration

EMCP 4.2B GENERATOR SET CONTROLLER

The Cat® EMCP 4.2B offers fully featured power metering, protective relaying and engine and generator control and monitoring. Engine and generator controls, diagnostics, and operating information are accessible via the control panel keypads; diagnostics from the EMCP 4 optional modules can be viewed and reset through the EMCP 4.2B.

Full range of attachments

- Wide range of system expansion attachments, designed specifically to work with the EMCP 4
- Flexible packaging options for easy and cost effective installation

World wide product support

- Cat dealers provide extensive pre and post sale support
- Cat dealers have over 1,600 dealer branch stores operating in 200 countries

Features

- A 33 x 132 pixel, 3.8 inch, white backlit graphical display denotes text alarm/event descriptions, set points, engine and generator monitoring, and is visible in all lighting conditions.
- Textual display with support for 26 languages
- Advanced engine monitoring is available on systems with an ADEM™ controller.
- Integration with the CDVR and IVR provides enhanced system performance
- Fully featured power metering, protective relaying, engine and generator parameter viewing, and expanded AC metering are all integrated into this controller.
- Real-time clock allows for date and time stamping of diagnostics and events in the control's logs as well as service maintenance reminders based on engine operating hours or calendar days. Up to 40 diagnostic events are stored in the non-volatile memory

Features

- Ability to view and reset diagnostics on EMCP 4 optional modules via the control panel removes the need for a separate service tool for troubleshooting
- Set points and software stored in non-volatile memory, preventing loss during a power outage
- Five levels of security allow for configurable operator privileges
- Programmable security levels for groups of setpoints.
- Programmable kW Relays (3)
- Programmable weekly exerciser timer
- Dealer configurable resistive maps
- Default overview screen
- Real (kW) Load histogram
- Auto mains failure
- Programmable logic functionality
- Selectable units
    - Temperature: °C or °F
    - Pressure: psi, kPa, bar
    - Fuel Consumption: Liter/hr or Gal/hr (U.S. or U.K.)

Standard Features

- Voltage (L-L, L-N)
- Current (Phase)
- Average Volt, Amp, Frequency
- kW, kVAr, kVA (Average, Phase, %)
- Power Factor (Average, Phase)
- kW-hr, kVAr-hr (total)
- Excitation voltage and current (with CDVR)
- Desired Voltage, Excitation Command, Operating Mode (with IVR)
- Generator stator and bearing temp (with optional module)
- kW load histogram

Generator Protection

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under frequency (81 O/U)
- Reverse Power (kW) (32)
- Reverse Reactive Power (kVAr) (32RV)
- Overcurrent (50/51)
- Thermal Damage Curve

Engine Monitoring

- Coolant temperature
- Oil pressure
- Engine speed (RPM)
- Battery voltage
- Run hours
- Crank attempt and successful start counter
- Enhanced engine monitoring (with electronic engines)

Engine Protection

- Control switch not in auto (alarm)
- High coolant temp (alarm and shutdown)
- Low coolant temp (alarm)
- Low coolant level (alarm)
- High engine oil temp (alarm and shutdown)
- Low, high, and weak battery voltage
- Overspeed
- Overcrank
- Low Oil Pressure

Control

- Run / Auto / Stop control
- Speed and voltage adjust
- Local and remote emergency stop
- Remote start/stop
- Cycle crank

Inputs & Outputs

- Two dedicated digital inputs
- Three analog inputs
- Six programmable digital inputs
- Eight relay out
- Two programmable digital outputs

Communications

- Primary and accessory CAN data links
- RS-485 annunciator data link
- Modbus RTU (RS-485 Half duplex)

Language Support

Arabic, Bulgarian, Czech, Chinese, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Icelandic, Japanese, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Spanish, Swedish, Turkish

Environmental

- Control module operating temperature: -40°C to 70°C
- Display operating temperature: -20°C to 70°C
- Humidity: 100% condensing 30°C to 60°C
- Storage temperature: -40°C to 85°C
- Vibration: Random profile, 24-1000 Hz, 4.3G rms

Standards

- UL Recognized
- CSA C22.2 No.100,14, 94
- Complies with all necessary standards for CE Certification
  - 98/37/EC Machinery Directive
  - BS EN 60204-1 Safety of Machinery 89/336/EEC EMC Directive
  - BS EN 50081-1 Emissions Standard
  - BS EN 50082-2 Immunity Standard 73/23/EEC Low Voltage Directive
  - EN 50178 LVD Standard
- IEC529, IEC60034-5, IEC61131-3
- MIL STND 461

ULCERT
UL 2200 LISTING

INCLUDES THE FOLLOWING:

ALTERNATOR
Alternator insulation system is UL Recognized (UL 1446). PMG and AREP alternators are available. Automatic voltage regulators are UL Recognized.

WIRE HARNESS
AC, DC, and power harnesses are made with UL Listed wire and UL Listed terminals.

CONTROL PANEL
Control panels are comprised of UL Listed and UL Recognized components. EMCP is UL Recognized.

CIRCUIT BREAKER
Output circuit breaker is 100% rated and UL Listed.

TESTING
All UL Listed sets are designed and rigorously tested in accordance with UL Standard for Safety, UL 2200.

LABELING
Labeling meets UL requirements.

MECHANICAL OPTIONS
Mechanical options do not require UL Listing and, therefore, are not affected. The exceptions to this are:

FUEL TANKS
If a fuel tank is ordered with the unit, it must be UL Listed. Two versions are available: 24 hour integral (FCUL2) and 24/48 hour sub-base (FSBT)

ENCLOSURES
Factory installed enclosures meet UL requirements. Weatherproof and sound attenuated versions are available.

ELECTRICAL OPTIONS
The table below shows electrical options that meet UL requirements:

EBH	Battery Heater
EOS	Lube Oil Sump Heater
WCA1	Low Coolant Level Shutdown
WSS1	Low Coolant Temperature Alarm
AH1H	Anti-Condensation Heater
WHH	Coolant Heater
GOVE5	Electronic Governor (Fully Adjustable)
FSS1	Critical Low Fuel Level Shutdown
FSS2	Low Fuel Level Alarm
FSS5	Critical High Fuel Alarm
PBC5UL	UL Listed Battery Charger
PBC10NU	NFPA Battery Charger, UL Listed

LEHE0410-00 (01/13)

Picture shown may not reflect actual configuration

C13/C15/C18 SOUND ATTENUATED ENCLOSURES

US Sourced
Diesel Generator Set
350 - 750 ekW 60 Hz

Features

Robust/Highly Corrosion Resistant Construction

- Factory installed on skid base
- Environmentally friendly, polyester powder baked paint
- 14 gauge steel
- Interior zinc plated fasteners
- Exterior stainless steel fasteners
- Internally mounted exhaust silencing system
- Designed and tested to comply with UL 2200 Listed generator set package
- Compression door latches providing solid door seal

Excellent Access

- Large cable entry area for installation ease
- Accommodates side mounted single or multiple breakers
- Three doors on both sides
- Vertically hinged allow 180° opening rotation and retention with door stays
- Lube oil and coolant drains piped to the exterior of the enclosure base
- Radiator fill cover

Security and Safety

- Lockable access doors which give full access to control panel and breaker
- Cooling fan and battery charging alternator fully guarded
- Fuel fill, oil fill and battery can only be reached via lockable access
- Externally mounted emergency stop button
- Designed for spreader bar lifting to ensure safety
- Stub-up area is rodent proof

Transportability

These enclosures are of extremely rugged construction to withstand outdoor exposure and rough handling common on many construction sites.

Options

- Enclosure constructed with 14 gauge steel
- Enclosure constructed with 12 gauge aluminum (5052 grade)
- Caterpillar yellow or white paint
- Control panel viewing window
- UL Listed integral fuel tank with 670, 400, and 300 gallon capacities
- UL Listed sub base fuel tank with 660, 1000, 1900, and 2200 gallon capacities.
- Seismic certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, IBC 2015 CBC 2007, CBC 2010
- IBC Certification for 150 mph wind loading
- AC/DC lighting package
- 5 kW Canopy space heater to facilitate compliance with NFPA 110
- Motorized louvers and gravity discharge damper
- 125A Load Center
- GFCI outlets

*Not available with aluminum enclosures.

Level 1 Sound Attenuated Enclosure (Steel) Sound Levels

Model	Standby eKW	Cooling Air Flow Rate		Ambient Capability*		Sound Pressure Levels (dBA) at 7m (23 ft)
		m^3/s	cfm	˚C	˚F	100% Load
C13	350	8.5	18010	57	135	74
	400	8.5	18010	56	133	75
C15	350	10.4	22072	59	138	73
	400	10.4	22072	51	124	73
	450	10.4	22072	46	115	74
	500	12.5	26415	48	118	75
C18	550	8.1	17234	45	113	75
	600	8.1	17234	43	109	75
	650	12.7	26909	51	123	75
	700	12.7	26909	48	118	75
	750	12.7	26909	48	118	75

Sound Attenuated Enclosure (Aluminum) Sound Levels

Model	Standby eKW	Cooling Air Flow Rate		Ambient Capability*		Sound Pressure Levels (dBA) at 7m (23 ft)
		m^3/s	cfm	˚C	˚F	100% Load
C13	350	8.5	-	57	135	75
	400	8.5	-	56	133	75
C15	350	10.4	22072	59	138	72
	400	10.4	22072	51	124	73
	450	10.4	22072	46	115	74
	500	12.5	26415	48	118	75
C18	550	8.1	17234	45	113	76
	600	8.1	17234	43	109	76
	650	12.7	26909	51	123	76
	700	12.7	26909	48	118	76
	750	12.7	26909	48	118	76

Level 2 Sound Attenuated Enclosure (Steel) Sound Levels

Model	Standby eKW	Cooling Air Flow Rate		Ambient Capability*		Sound Pressure Levels (dBA) at 7m (23 ft)
		m^3/s	cfm	°C	°F	100% Load
C13	350	7.2	15256	50	122	70
	400	7.2	15256	50	122	70
C15	350	10.4	22071	50	122	72
	400	10.4	22071	50	122	72
	450	10.4	22071	50	122	72
	500	12.5	26415	50	122	72

*Cooling system performance at sea level. Consult your Cat® dealer for site specific ambient and altitude capabilities.

Note: Sound level measurements are subject to instrumentation, installation and manufacturing variability, as well as ambient site conditions.

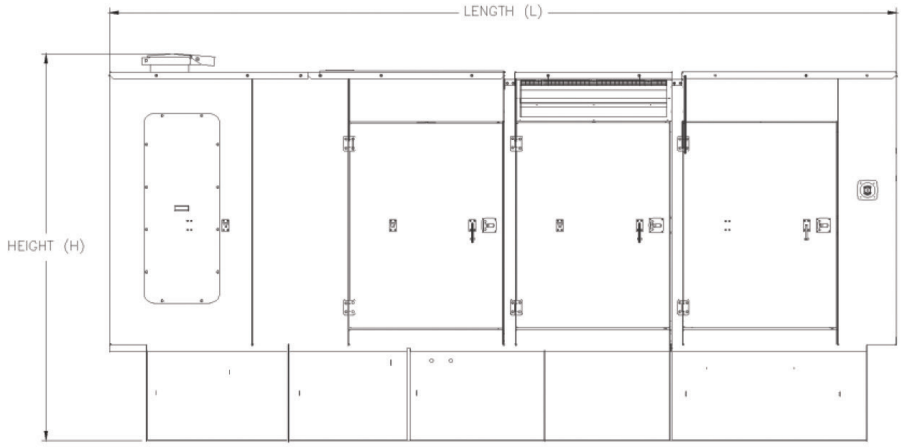
Component Weights to Calculate Package Weight

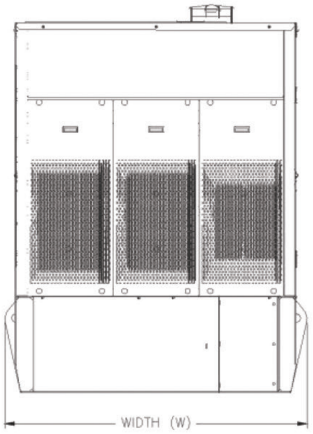
Model	Standby eKW	Narrow Skid Base		Wide Skid Base		Sound Attenuated Enclosure (Steel)		Sound Attenuated Enclosure (Aluminum)	
		kg	lb	kg	lb	kg	lb	kg	lb
C13	350	253	578	579	1276	1245	2745	765	1687
	400								
C15	350	273	602	465	1025	1245	2745	765	1687
	400								
	450								
	500								
C18	550	301	664	466	1027	1301	2868	817	1801
	600								
	650	286	630	637	1404	1393	3071	887	1955
	700								
	750								

Sound Attenuated Enclosure on Skid Base

Model	Standby eKW	Length "L"		Width "W"		Height "H"	
		mm	in	mm	in	mm	in
C13	350	4948	194.8	2014	79.3	2320	91.3
	400						
C15	350	4948	194.8	2014	79.3	2320	91.3
	400						
	450						
	500						
C18	550	5183	204.0	2014	79.3	2262	89.0
	600						
	650	5230	205.9	2315	91.1	2253	88.7
	700						
	750						

Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base





Model	Standby eKW	Length "L"		Width "W"		Height "H"	
		mm	in	mm	in	mm	in
C13	350	5461	215.0	2014	79.3	2743	108.0
	400						
C15	350	4948	194.8	2014	79.3	2619	103.0
	400						
	450						
	500						
C18	550	5187	204.2	2014	79.3	2561	101.0
	600						
	650	6977	274.7	2315	91.1	2675	105.3
	700						
	750						

C13 / C15 / C18 Integral and Sub-Base Fuel Tanks

US Sourced
Diesel Generator Set
350 – 750 ekW 60 Hz

Picture shown may not represent actual package

Features

- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitates compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code
- Dual wall
- Lockable fuel fill cap, 4" (101.6 mm) NPT
- Low fuel level warning standard, customer configurable warning or shutdown
- Primary tank leak detection switch in containment basin
- Tank design provides capacity for thermal expansion of fuel
- Fuel supply dip tube is positioned so as not to pick up fuel sediment
- Fuel return and supply dip tube is separated by an internal baffle to prevent immediate re-supply of heated return fuel
- Pressure washed with an iron phosphate solution
- Interior tank surfaces coated with a solvent-based thin-film rust preventative
- Heavy gauge steel gussets with internal lifting rings
- Primary and secondary tanks are leak tested at 20.7 kPa (3 psi) minimum
- Compatible with open packages and enclosures
- Gloss black polyester alkyd enamel exterior paint
- Welded steel containment basin (minimum of 110% of primary tank capacity)
- Direct reading fuel gauge with variable electrical output
- Emergency vents on primary and secondary tanks are sized in accordance with NFPA 30

Sub Base

- The sub-base fuel tank mounts below the generator set wide base

Integral

- Integral diesel fuel tank is incorporated into the generator set base frame
- Robust base design includes linear vibration isolators between tank base and engine generator

Options

- Audio/visual fuel level alarm panel
- 5 gal (18.9 L) spill containment
- 5 gal (18.9 L) spill containment with fuel fill drop tube with in 6" (152 mm) from bottom of tank
- 5 gal (18.9 L) spill containment with overfill prevention valve and fuel fill drop tube with in 6" (152 mm) from bottom of tank
- ULC Listed 7.5 gal (28.4 L) spill containment with vent extensions, vent whistle, and drop tube facilitating compliance with CSA 8139-09
- ULC Listed 7.5 gal (28.4 L) spill containment with overfill prevention valve, vent extensions, vent whistle and drop tube facilitating compliance with CSA 8139-09

Integral & Sub-Base Fuel Tank Base Useable Capacities with Fuel Tank Dimensions & Weights

Integral – Width (W) 2014 mm (79.3 in)

Sub-base – Width (W) 2056 mm (81.0 in)

Integral* – Width(W) 2315 mm (91.2 in)

Sub-base*–Width(W) 2357 mm (92.7in)

Open Set & Weather Protective Enclosure

C13 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Liter	Gallon	Liter	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW013	2646	699	2540	671	1569	3450	762	30.0	5461	215	2552	100.5	2743	108.0
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	2763	108.8	2955	116.3
Sub-Base	FTDW006	6980	1844	6818	1801	2228	4483	889	35.0	6184	243.5	3017	118.8	3209	126.3
Sub-Base	FTDW007	8339	2203	8244	2178	2150	5052	889	35.0	7074	278.5	2291	117.8	3789	149.2
Sub-Base	FTDW011	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	2763	108.8	2955	116.3

C15 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Liter	Gallon	Liter	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW002	1283	339	1262	333	1015	2237	635	25.0	3814	150.1	2426	95.5	2619	103.0
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	2763	108.8	2955	116.3
Sub-Base	FTDW006	6980	1844	6818	1801	2228	4912	889	35.0	6184	243.5	3017	118.8	3209	126.3
Sub-Base	FTDW008	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	2763	108.8	2955	116.3

C18 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Liter	Gallon	Liter	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW004	1446	382	1422	376	1015	2237	635	25.0	3814	150.1	2426	95.5	2560	100.8
Integral*	FTDW030	2498	660	2377	628	1681	3703	762	30.0	4995	196.6	2670	105.1	2675	105.3
Integral*	FTDW031	5175	1367	4997	1320	2046	4510	762	30.0	6737	265.3	2670	105.1	2675	105.3
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	2763	108.8	2955	116.3
Sub-Base	FTDW007	8339	2203	8244	2178	2150	4134	889	35.0	7074	278.5	2291	117.8	3159	124.4
Sub-Base	FTDW008	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	2739	107.9	2905	114.4
Sub-Base*	FTDW032	10228	2702	10112	2640	2638	5816	889	35.0	7368	290	3127	123.1	3132	123.3

Integral & Sub-Base Fuel Tank Base Useable Capacities with Fuel Tank Dimensions & Weights

Integral – Width(W) 2014 mm (79.3 in)

Sub-base – Width(W) 2056 mm (81 in)

Integral* – Width(W) 2315 mm (91.2 in)

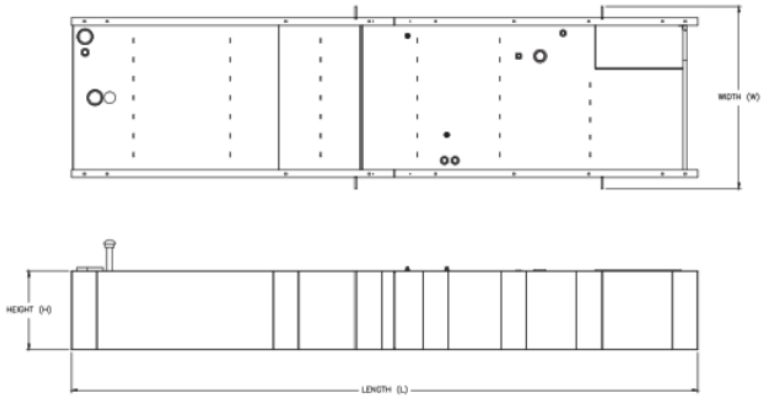
Sub-base*–Width(W) 2357 mm (92.7in)

Sound Attenuated Enclosure

C13 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Liter	Gallon	Liter	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW013	2646	699	2540	671	1569	3450	762	30.0	5461	215.0	NA	NA	2743	108.0
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	NA	NA	2955	116.3
Sub-Base	FTDW006	6980	1844	6818	1801	2033	4483	889	35.0	6184	243.5	NA	NA	3209	126.3
Sub-Base	FTDW007	8339	2203	8244	2178	2292	5052	889	35.0	7074	278.5	NA	NA	3209	126.3
Sub-Base	FTDW011	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	NA	NA	2955	116.3

C15 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Liter	Gallon	Liter	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW001	1283	339	1262	333	1015	2237	639	25.0	4746	186.9	NA	NA	2619	103.0
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	NA	NA	2955	116.3
Sub-Base	FTDW006	6980	1844	6818	1801	2228	4912	889	35.0	6184	243.5	NA	NA	3209	126.3
Sub-Base	FTDW011	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	NA	NA	2955	116.3

C18 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Liter	Gallon	Liter	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW003	1446	382	1422	376	1015	2237	635	25.0	3814	150.1	NA	NA	2560	100.8
Integral*	FTDW030	2498	660	2381	629	1681	3703	762	30.0	4995	196.6	2670	105.	2675	105.3
Integral*	FTDW031	5175	1367	4997	1320	2046	4510	762	30.0	6737	265.3	NA	NA	2675	105.3
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	NA	NA	2905	114.3
Sub-Base	FTDW007	8339	2203	8244	2178	2150	4134	889	35.0	7074	278.5	NA	NA	3209	126.3
Sub-Base	FTDW011	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	NA	NA	2905	114.3
Sub-Base*	FTDW032	10228	2702	9994	2640	2638	5816	889	35.0	7368	290	NA	NA	3132	123.3



The heights listed above do not include lumber used during manufacturing and shipping.

Estimated Run Times (Hours) at 100% Load

C13 Tank Design	Feature Code	Standby Ratings (ekW)				Prime Ratings (ekW)			
		400	350	–	–	350	320	–	–
Integral	FTDW013	24	27	-	-	25	29	-	-
Sub-Base	FTDW005	36	41	-	-	38	43	-	-
Sub-Base	FTDW006	65	72	-	-	72	77	-	-
Sub-Base	FTDW007	77	87	-	-	81	93	-	-
Sub-Base	FTDW011	23	25	-	-	24	27	-	-

C15 Tank Design	Feature Code	Standby Ratings (ekW)				Prime Ratings (ekW)			
		500	450	400	350	455	410	365	320
Integral	FTDW001 / FTDW002	9	9	11	11	10	10	11	12
Sub-Base	FTDW005	28	29	32	36	30	31	35	38
Sub-Base	FTDW006	50	52	57	63	54	56	62	67
Sub-Base	FTDW008 / FTDW011	17	18	20	22	19	20	22	24

C18 Tank Design	Feature Code	Standby Ratings (ekW)					Prime Ratings (ekW)				
		750	700	650	600	550	680	635	600	545	500
Integral	FTDW003 / FTDW004	-	-	-	8	9	-	-	-	9	10
Integral*	FTDW030	11	12	13	-	-	12	13	14	-	-
Integral*	FTDW031	24	25	27	-	-	26	27	29	33	36
Sub-Base	FTDW005	-	-	-	24	25	-	-	-	25	27
Sub-Base	FTDW007	-	-	-	51	54	-	-	-	54	59
Sub-Base	FTDW008 / FTDW011	-	-	-	15	16	-	-	-	16	17
Sub-Base*	FTDW032	49	51	54	-	-	53	55	58	-	-

*For ratings 650, 700 & 750 ekW only

Tanks with full electrical stub-up area include removable end channel. Tanks with RH stub-up include stub-up area directly below the circuit breaker or power terminal strips. Dimensions include weather-protective enclosure exhaust system.

Dual wall sub-base tanks are UL Listed and constructed in accordance with UL Standard for Safety UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids and Canada CAN/ULC S601, Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids.

Fuel tanks and applicable options facilitate compliance with the following United States NFPA Code and Standards:

NFPA 30: Flammable and Combustible Liquids Code

NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks and applicable options facilitate compliance with the following Canadian Standard and Code:

CSA C282 – Emergency Electrical Power Supply for Buildings

CSA B139-09 – Installation Code for Oil-Burning Equipment

The following sub-base fuel tanks meet Chicago code for containment and labelling:

FTDW005

FTDW008

FTDW011

C9 ACERT™, C13 ACERT, C15 ACERT, C18 ACERT Circuit Breakers

Manually Operated Circuit Breakers

Current (A)	Frame	Number of Poles	Interrupting Ratings (kA rms)			Trip Units	(Lugs) Cable Size Range / Phase	Auxiliary Options
			240V	480V	600V			
250	T4N	3	65	25	18	Electronic LS/I (S or I) or LSI	(1) 6 AWG – 350 kcmil	1 Form C + 1 Bell Alarm 250VAC/VDC Shunt Trip 24VDC
400	T5N	3	65	25	18		(2) 3/0 – 250 kcmil	
600	T6N	3	65	35	20		(3) 2/0 – 400 kcmil	
800	T6N	3	65	35	20		(3) 2/0 – 400 kcmil	1 Form C + 1 Bell Alarm 400VAC / 250VDC Shunt Trip 24VDC
1200	T7S	3	65	50	25		(4) 4/0 – 500 kcmil	
1600	R	3	65	35	18	Electronic LSI	BUS BAR	Form C (1NO + 1NC) Shunt Trip 24VDC
2000	R	3	65	35	18		BUS BAR	
2500	R	3	65	35	18		BUS BAR	

Electrically Operated Circuit Breakers

Current (A)	Frame	Number of Poles	Interrupting Ratings (kA rms)			Trip Units	(Lugs) Cable Size Range / Phase	Auxiliary Options
			240V	480V	600V			
800	T7M-S	3	65	50	25	Electronic LSI	(4) 4/0 – 500 kcmil	2 Form C + 1 Bell Alarm 24VDC
1200	T7M-S	3	65	50	25		(4) 4/0 – 500 kcmil	2 Form C + 1 Bell Alarm 24VDC

Single Breaker Options (250 – 2500A)

Model	Current (A)	Operation
C9 ACERT™	250	Manually Operated
C9 ACERT	400	Manually Operated
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	600	Manually Operated
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	800	Manually Operated or Electrically Operated
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	1200	Manually Operated or Electrically Operated
C13 ACERT, C15 ACERT, C18 ACERT	1600	Manually Operated
C15 ACERT, C18 ACERT	2000	Manually Operated
C18 ACERT	2500	Manually Operated

Multiple Breaker Options

	Main Breaker Box		Auxiliary Box
	1st Breaker (Amps)	2nd Breaker (Amps)	Breaker (Amps)
Model	Manually Operated	Manually Operated	Manually Operated
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	250	250, 400, 600, 800, or 1200	3rd Breaker: 250 or 400 (Not available if 1st & 2nd Breaker = 1200A)
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	400		
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	600		
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	800		
C9 ACERT, C13 ACERT, C15 ACERT, C18 ACERT	1200		
C13 ACERT, C15 ACERT, C18 ACERT	1600	Not Available	2nd Breaker: 250 or 400
C15 ACERT, C18 ACERT	2000		
C18 ACERT	2500		

Battery Charger

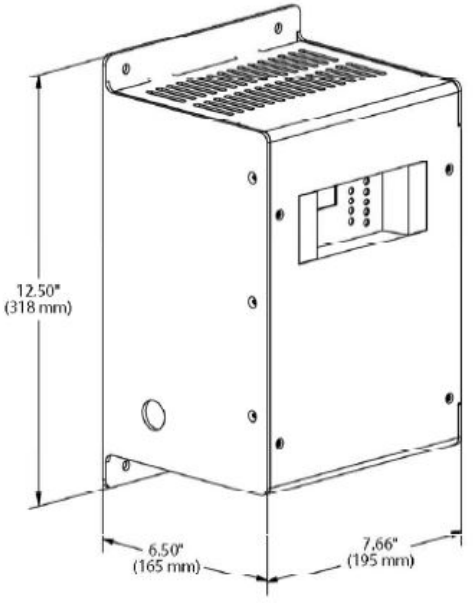


Image Shown may not Reflect Actual Package.

UL 10 Amp

Battery Charger

This battery charger offers accurate, automatic charging of lead-acid and nickel cadmium batteries. The output voltage automatically adjusts to changing input, load, battery and ambient conditions. This prevents battery over-charging and consequent loss of battery electrolyte.

Standard features include AC line compensation, precision voltage regulation, current limiting, automatic 2-rate charging, voltmeter and ammeter, temperature compensation and UL Listing.

The user interface is easy to understand with digital metering, NFPA 110 alarms and a battery fault alarm.

Features

- Electronically current limited at 105% of rated output
- Alarm system
- Digital display
- Lightning and voltage transient protection
- Protection of connected equipment against load dump protection
- Constant voltage, current limited, 4-rate automatic equalization
- IP 20 housing
- Temperature compensation
- On board temperature sensor with remote port
- Auto AC line compensation
- Output regulated by sensed battery voltage

Standards

- C-UL listed to UL 1236
- NFPA 70, NFPA 110
- CSA 22.2 No 107 certified
- CE DOC to EN 60335
- IBC Seismic Certification

Battery Charger

Specifications

Input supply	110 – 120 V 208 – 240 V
AC and DC fuses	2 input and 2 output)
Output voltage	24V
Output amps	10
Frequency	50 / 60 Hz
Operating temperature	-20°C (-4°F) to +60°C (140°F)
Housing constructed of rustproof anodized Aluminum	

Dimensions			
Width	Depth	Height	Weight
195 mm (7.66 in)	165 mm (6.5 in)	318 mm (12.5 in)	10.4 kg (23 lb)

NFPA 110 alarm package as follows:

- AC on Green led (indication)
- AC fail Red led and form C contact (2A)
- Float mode LED
- Fast charge LED
- Temp comp active LED
- Low battery volts Red led and Form C conta
- High Battery Volts Red led and Form C conta
- Charger fail Red led and Form C conta
- Battery fault Red led and Form C conta
- Battery disconnected
- Battery polarity reversed
- Mismatched charger battery voltage
- Open or high resistance charger to battery connection
- Open battery cell or excessive internal resistance

Feature Codes:

BTC1024 BTC1028 BTC1035 BTC1025 BTC1032

LEHE0141-05 (02/19)

Reference illustration

C15 and C18 Jacket Water Heater

Factory installed jacket water heater for increased cold-starting capability. The system includes a tank-style metal heater with an integral high limit thermostat and a remote engine mounted control thermostat, durable silicone hoses and heater control relay wired to a common connection point in the control panel. The heater and thermostat location is optimized for maximum coolant flow and heating power efficiency.

FEATURES

FACTORY INSTALLED

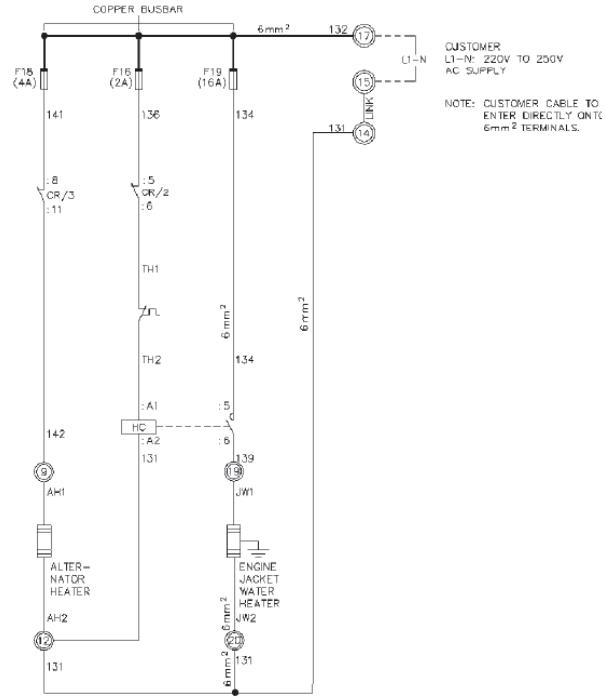
- Complete with silicone hoses
- Isolated tank heater vibration and shock tested to extreme limits to guarantee durability
- Optimized location of the heater on the genset base for maximum coolant flow
- Remote pilot thermostat located on the engine for optimized power cycle efficiency is factory set to 100° F (37.8°C)
- Automatically disconnected when engine is running via a dedicated heater relay located in the control panel.
- Supplied with UL recognized components
- Compatible with Cat® ELC and all chemicals
- All parts are serviceable and field replaceable
- Incoloy heater element for longer service life

SPECIFICATIONS

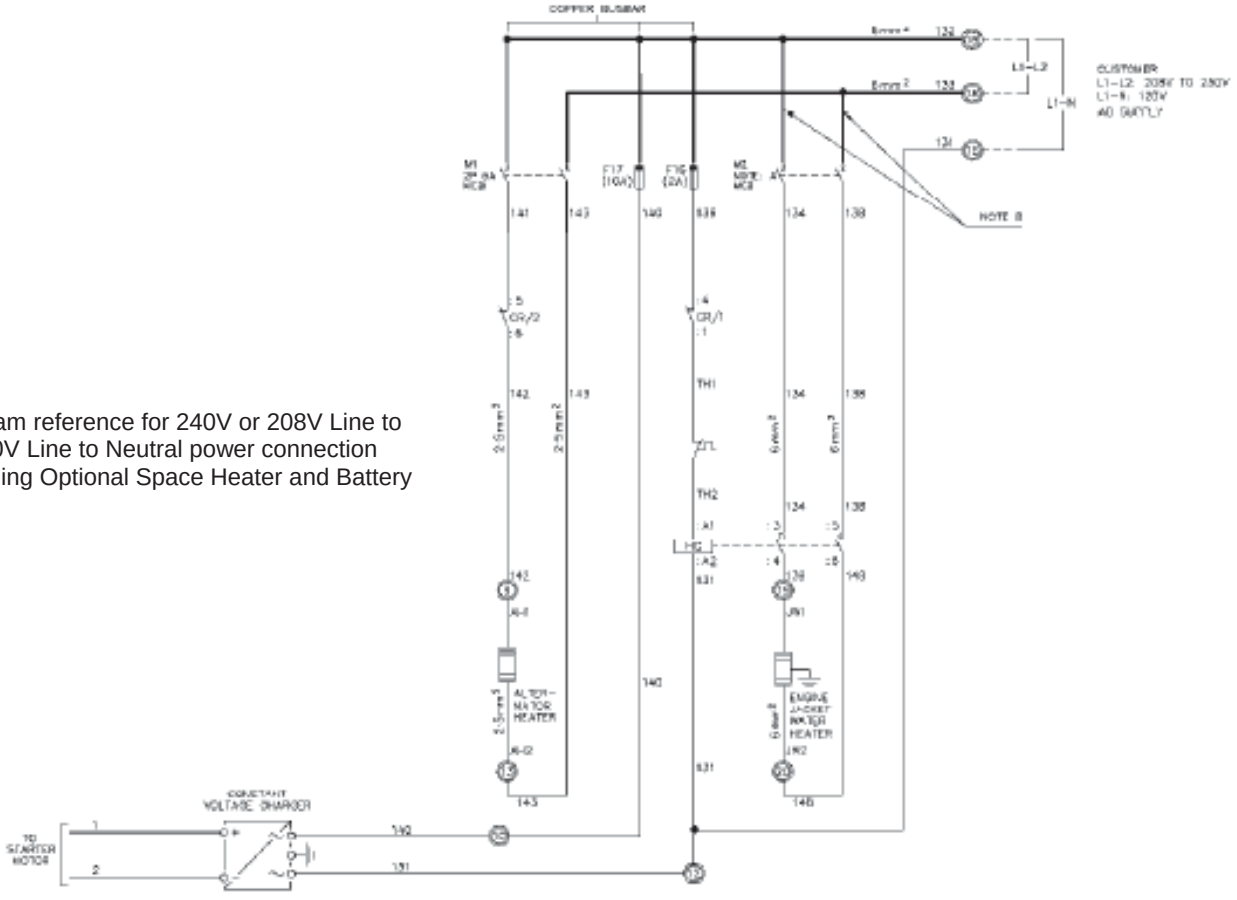
Unit Specifications			
	Design Voltage		
	208	220	240
Rating	2250	2520	3000
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Phase	1	1	1
Amps	10.82	11.45	12.5
Feature Code	JWH0058 JWH0059 JWHD032		

WIRING DIAGRAMS

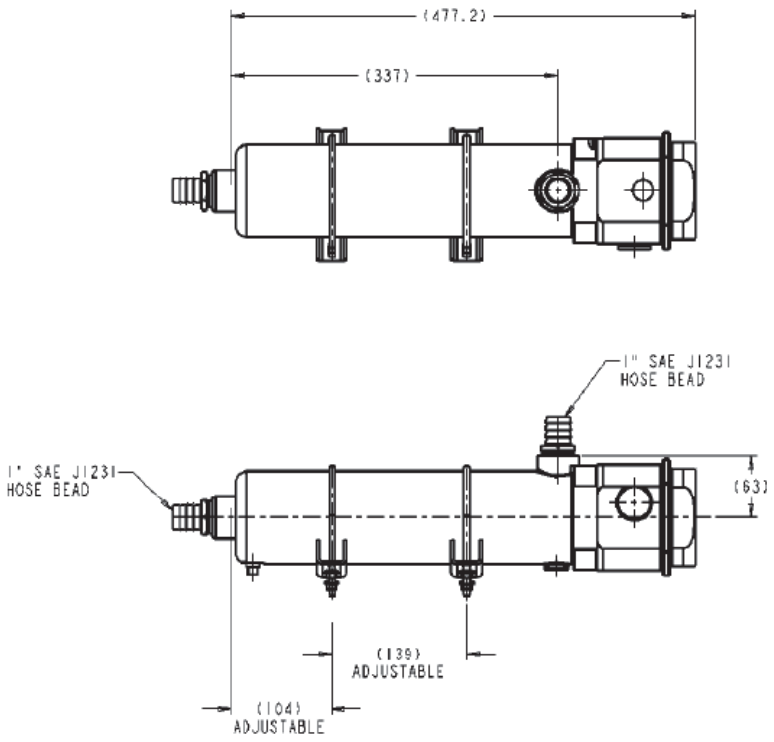
Wiring diagram reference for 240V Line to Neutral power connection



Wiring diagram reference for 240V or 208V Line to Line and 120V Line to Neutral power connection (Note: Including Optional Space Heater and Battery Charger)



HEATER DETAIL



HEATER OPERATION

The heater uses compliant components to UL and CSA, and is both CSA and UL approved.

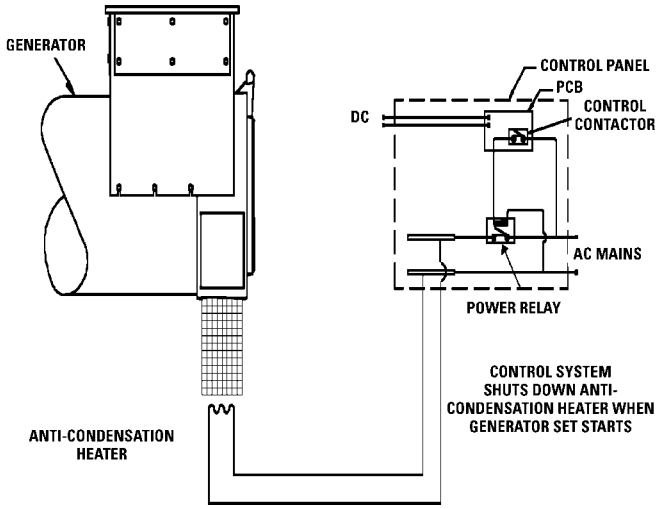
When the generator set is not running, the heater is automatically connected to the AC supply through a power relay mounted in the control panel. Upon receiving a start signal, the AC supply is automatically disconnected by the power relay and automatically reconnected when the start signal is removed and the engine has stopped.

Pilot thermostat located on the engine precisely monitors and controls the engine coolant temperature and is wired to energize and de-energize heater power cycles.

A high-limit thermostat is built into the heater to regulate the output temperature to within safe limits.

CATERPILLAR®

GENERATOR ANTI-CONDENSATION HEATER AH1H



Appropriate when the generator set is to be sited in a low ambient and/or high humidity environment, the heater maintains the AC generator at a suitable temperature to prevent winding corrosion due to condensation.

The heater itself is powered by a 110/120 volt (VAC 120) or 208/240 volt (VAC 240) AC auxiliary supply protected by a fuse inside the main control panel. When the generator set is not running the heater is automatically connected to the AC supply through a power relay mounted in the control panel. Upon receiving a start signal the AC supply is automatically disconnected by the power relay and automatically reconnected when the start signal is removed and the engine has stopped.

www.cat-ElectricPower.com

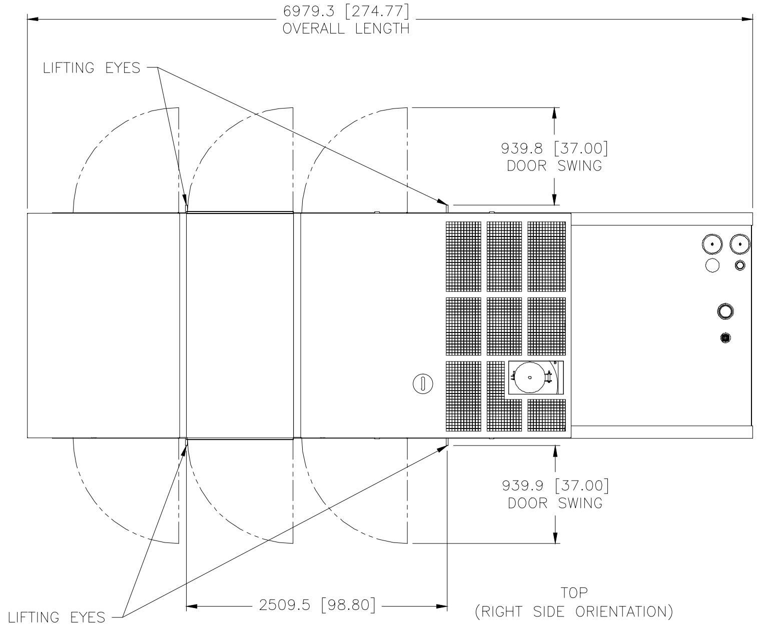
Market: N. America

LEHE4017 (01-05)

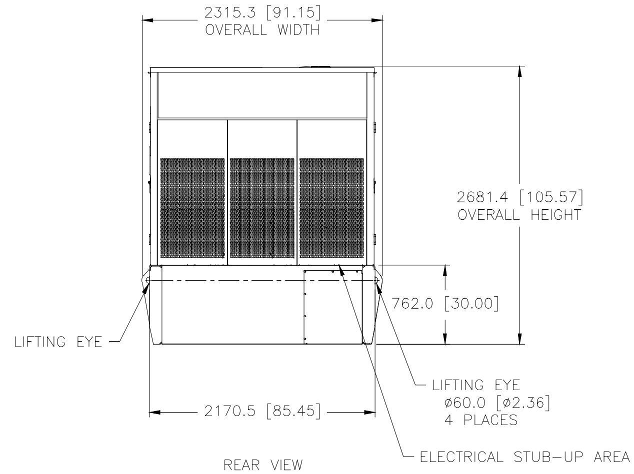
METRIC 571-3850

QTY	ENGINE CONNECTIONS	SIZE	SHEETS
1	COOLANT DRAIN	ø19.1 [0.75] ID	2
1	EXHAUST	ø254.0 [10.00] OD	2
1	OIL DRAIN	ø25.4 [1.00] ID	2

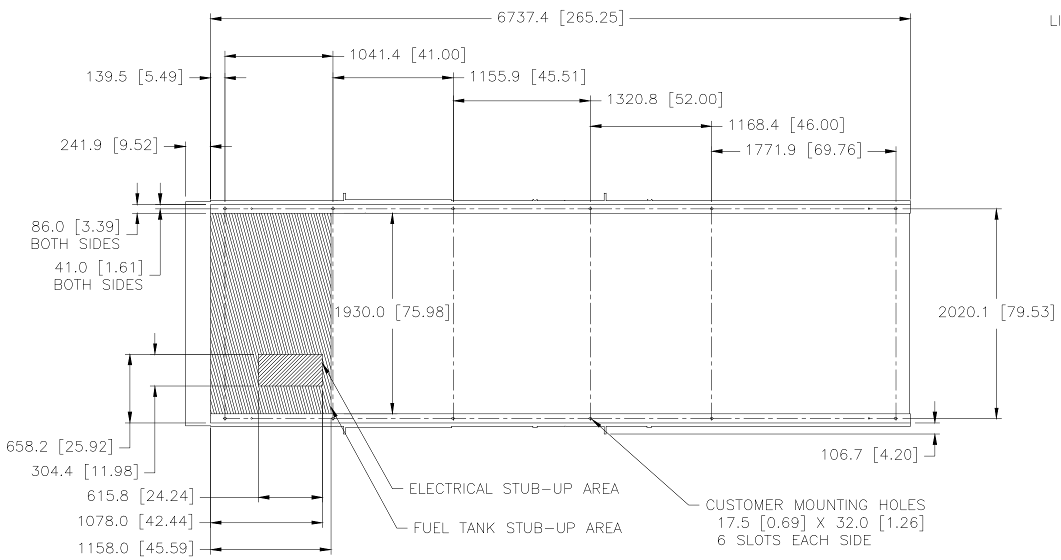
QTY	POSSIBLE TANK CONNECTIONS	SIZE	SHEETS
1	BASIN TANK EMERGENCY VENT	6" NPTF THD	3
1	PORT	2" NPTF THD	3
1	FUEL FILLER	4" NPTF THD	3
1	MAIN TANK EMERGENCY VENT	6" NPTF THD	3
2	SPARE PORT	2" NPTF THD	3



TOP
(RIGHT SIDE ORIENTATION)



REAR VIEW



FOOTPRINT
(DIMENSIONED OUTLINE VIEW FROM ABOVE)
(RIGHT SIDE ORIENTATION)

PACKAGE LIFTED IN 4 PLACES

PACKAGE SHOWN WITH MORE DETAIL ON SHEETS 2 & 3

MODEL	TYPE	PRICING AR	ENCLOSURE	TANK
C18	-	LS-3489 CHG 00	LS-3531 CHG 01 LS-3533 CHG 01	LS-3497 CHG 02

SPEC NO.	NAME
1E2966B	IDENT
1E2733	DRAWING-AUTOCAD
1E0198W	BRAND MARKINGS
1E0013G	CONFIDENTIALITY
1E0012A	INTERPRETATION
1E0011	INTPR & TOL

DRN M.J. SWIFT
CHK M.J. SWIFT
APPD N.P. MOUNTJOY
CONCEPT | EXP | PRE PROD. | PROD.
RECORDS X

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM [INCH]
DIMENSIONS W/O TOL ARE BASIC

SCALE 1 = 16
SHEET 1 OF 3
THIRD ANGLE PROJECTION

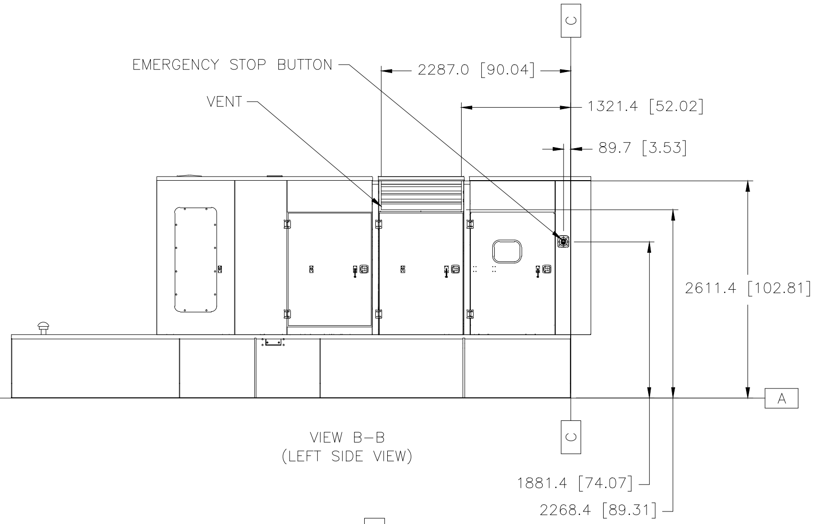
CHG	DATE
00	19SEP18

CATERPILLAR INC.

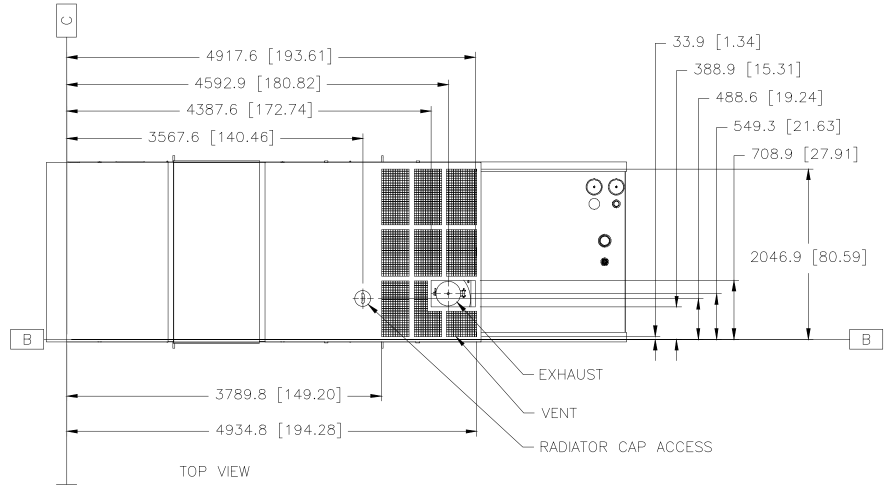
INSTALLATION-COMPOSITE
C18PD SA L1 ENCL W/24HRTK

571-3850 VER - CONTROL DES W973 E

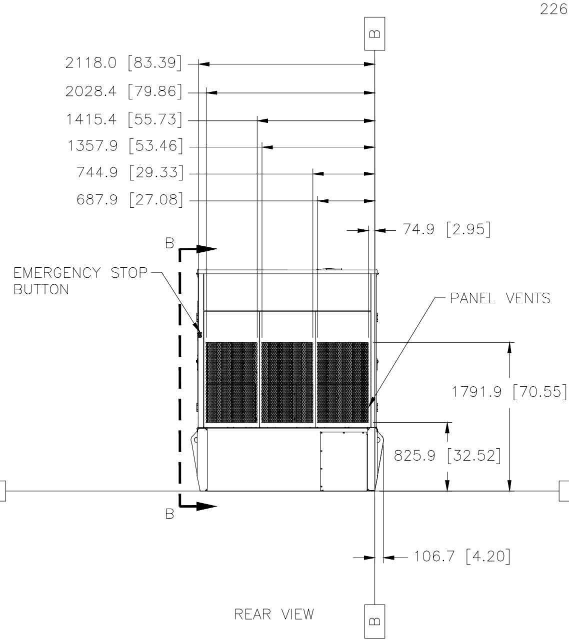
METRIC 571-3850



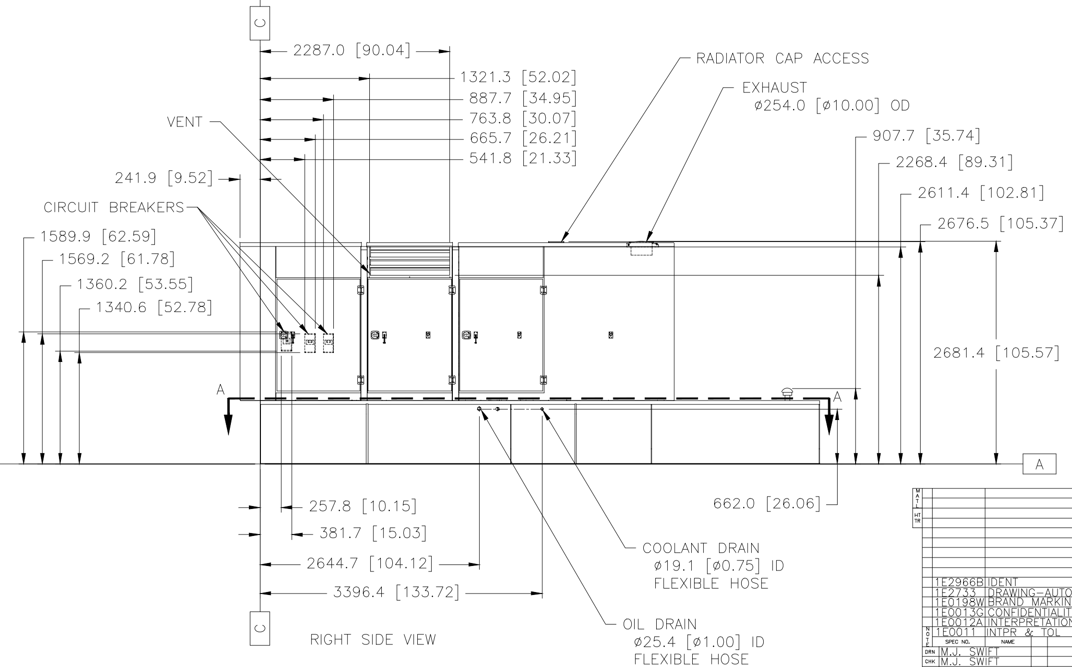
VIEW B-B
(LEFT SIDE VIEW)



TOP VIEW



REAR VIEW



RIGHT SIDE VIEW

SPEC NO.	NAME
1E2966B	IDENT
1E2733	DRAWING-AUTOCAD
1E0198W	BRAND MARKINGS
1E0013G	CONFIDENTIALITY
1E0012A	INTERPRETATION
1E0011	INTPR & TOL

DRN M.J. SWIFT
CHK M.J. SWIFT
APPD N.P. MOUNTJOY
CONCEPT EXP PRE PROD. PROD.
RECORDS X

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM [INCH]
DIMENSIONS W/O TOL ARE BASIC

SCALE 1 = 20
SHEET 2 OF 3
THIRD ANGLE PROJECTION

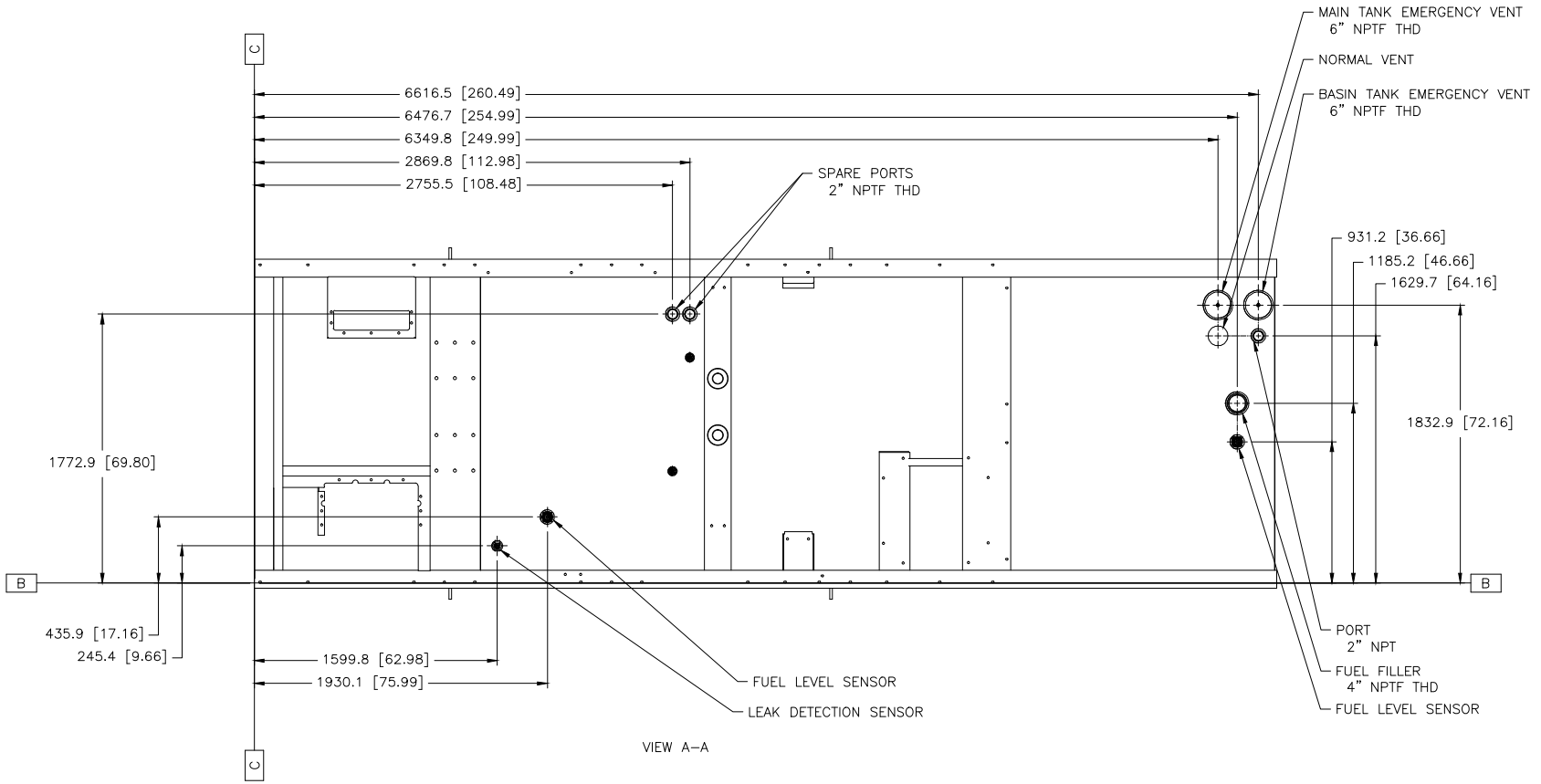
CHG	DATE
00	19SEP18

CATERPILLAR INC.

INSTALLATION-COMPOSITE
C18PD SA L1 ENCL W/24HRTK

571-3850 VER - DES X SUB CONTROL W973 E

METRIC 571-3850



VIEW A–A

	1E2966	IDENT
	1E2713	DRAWING-AUTOCAD
	1E0138	BRAND MARKINGS
	1E0013	CONFIDENTIALITY
	1E0012	INTERPRETATION
	1E0011	INTPR & TOL
DRN	M.J. SWIFT	
CHK	M.J. SWIFT	
APPD	N.P. MOUNTJOY	
RECORDS	X	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN mm [INCH]
DIMENSIONS W/O TOL ARE BASIC

SCALE 1 = 10
THIRD ANGLE PROJECTION
00 19SEP18
SHEET 3 OF 3

CATERPILLAR INC.

INSTALLATION-COMPOSITE
C18PD SA LT ENCL W/24HRTK
571-3850 - W973 E

METRIC 390-1189

CIRCUIT DESCRIPTION TABLE Model: 3901189.DGM		
CIRCUIT #	COLOR	DESCRIPTION
12	WH	AREP 12
9	WH	AREP 9
10	WH	AREP 10
11	WH	AREP 11
14	WH	PMG A
16	WH	PMG C
15	WH	PMG B
14	WH	PMG A
AI1	RD	ANALOG INPUT 1 (+)
AI1	BK	ANALOG INPUT 1 (-)
AI2	RD	ANALOG INPUT 2 (+)
AI2	BK	ANALOG INPUT 2 (-)
SH1	CU	ANLG INP SHIELD 2
SH2	CU	ANLG INP SHIELD 1
F5	BU	EXCITER 5+
F6	WH	EXCITER 6-
AC199	WH	AC NEUTRAL
AC200	GN	CUSTOMER AC GROUND
AC718	WH	CB-JWH L2 TO RLY
AC702	WH	JWH RLY TO HTR L2
AC701	WH	JWH RLY TO HTR L1
AC717	WH	CB-JWH L1 TO RLY
AC720	WH	CB-ALH L2 TO HTR
AC703	WH	ALT HTR RLY TO HTR L1
AC704	WH	RLY TO HTR L1
AC705	WH	RLY TO HTR L2
AC719	WH	CB-ALH L1 TO RLY
AC102	WH	AC LINE INPUT L2
AC101	WH	AC LINE INPUT L1
AC103	WH	CB TO RLY L1
AC104	WH	CB TO RLY L2
AC105	WH	GFCI L1
AC106	WH	GFCI L2
AC107	WH	CB TO L1
AC108	WH	POWER SUPPLY L1
AC109	WH	AC STANDARD L2
101	WH	UNFUSED BTRY (+)
103	WH	+24V BTRY (EMCP)
104	WH	+24V BTRY (ADEM)
106	WH	+24V ALTERNATOR
108	WH	+24V BTRY
148	WH	+24V BTRY FUSED
154	WH	POWER SUPPLY +V
200	WH	GROUND
203	WH	-24V BTRY (EMCP)
208	WH	-24V
229	WH	CLEAN GROUND
C249	WH	POWER SUPPLY
304	WH	ENGINE CRANK
344	WH	E-STOPS LINK 1
345	WH	E-STOPS LINK 2
347	WH	REMOTE E-STOP LINK
348	WH	REMOTE E-STOP
390	WH	ADEM KEY SWITCH
A309	WH	FUEL ENABLE
A338	WH	JWH REMOTE T-STAT SIGNAL
A339	WH	JWH REMOTE T-STAT RETURN
A380	SH	RS485 ANN. SHLD
E486	WH	SENSING VOLTAGE - PHASE A
E487	WH	SENSING VOLTAGE - PHASE B
E488	WH	SENSING VOLTAGE - PHASE C
E494	WH	CT SENSING - PHASE A
E495	WH	CT SENSING - PHASE B
E496	WH	CT SENSING - PHASE C
E497	WH	DROOP SENSING CT
E498	WH	CT RETURN COMMON
F409	WH	SENSING VOLTAGE NEUTRAL
F410	WH	DROOP SENSING CT RETURN
F412	WH	BUSS PHASE A
F413	WH	BUSS PHASE B
F430	WH	GROUND FAULT
F434	WH	GENERATOR PHASE A
F435	WH	GENERATOR PHASE B
F436	WH	GENERATOR PHASE C
G407	RD	RS485 ANN. B (+)
G408	BK	RS485 ANN. A (-)
G409	GY	RS485 ANN. REF
G410	WH	BUSS N
G419	WH	GND FAULT RESET N/C

CIRCUIT DESCRIPTION TABLE Model: 3901189.DGM		
CIRCUIT #	COLOR	DESCRIPTION
G420	WH	GND FAULT 4 POLE SW LINK
E553	WH	MOTOR START
E560	WH	RLY7 SPARE - CM
E561	WH	RLY7 SPARE - NC
E562	WH	RLY7 SPARE - NO
E563	WH	RLY8 SPARE - CM
E564	WH	RLY8 SPARE - NC
E565	WH	RLY8 SPARE - NO
F526	WH	HEATER/MOTOR RELAY
F541	SH	ANLG INP SHLD 1
F548	WH	+5V ANLG SNSR SUPP
A666	WH	LIGHTS +
A667	WH	LIGHTS -
A774	WH	E-STOP
A779	WH	CB BELL ALARM N/O
A780	WH	CB BELL ALARM N/C
A782	WH	CB BELL ALARM COMMON
E722	WH	S-SPD
E723	BK	D-SPD
L729	WH	CB UNDER VOLTAGE SIGNAL TO CB
M755	GN	CAN (J1939) (-)
M756	YL	CAN (J1939) (+)
M757	SH	CAN (J1939) REF
N702	WH	PMG PHASE A / AREP 11
N703	WH	PMG PHASE B / AREP 9 / SH T4
N704	WH	PMG PHASE C / AREP 12
N705	WH	EXCITER (+)
N706	WH	EXCITER (-)
N713	WH	+/- 10VDC INPUT (A)
N714	WH	+/- 10VDC INPUT (B)
N715	WH	FAULT RESET
N716	WH	EXCITATION DISABLE
N717	WH	VAR/PF ENABLE
N718	WH	VOLTS ADJUST COMMON
N719	WH	VOLTS ADJUST RAISE
N720	WH	VOLTS ADJUST LOWER
N752	WH	ALARM OUTPUT DRIVER
P733	WH	ANALOG INPUT 1 (+)
P734	WH	ANALOG INPUT 1 (-)
X709	WH	CKT BRKR AUX CONTACT (COMMON)
X710	WH	CKT BRKR AUX CONTACT (NO)
X711	WH	CKT BRKR AUX CONTACT (NC)
X713	WH	CKT BRKR CLOSE
879	WH	REMOTE START
892	GN	CAT DATA LINK (-)
893	YL	CAT DATA LINK (+)
P853	WH	BRKR SHUNT TRIP
P854	WH	BRKR SHUNT TRIP
X860	WH	STARTER MAGNETIC SWITCH CB
X861	WH	STARTER MAGNETIC SWITCH PS1
X863	WH	STARTER MAGNETIC COIL (+)
F874	WH	TIMER TO SWITCH +24V
J904	WH	FAULT SHUTDOWN DRIVER
J905	WH	DRIVER SUPPLY (50)
L923	WH	SPEED BRICK 1
L932	WH	SPEED BRICK 2
L941	WH	SPEED BRICK 3
L950	WH	MOTOR LIMIT SW (NC)
R951	RD	MODBUS (+)
R952	BK	MODBUS (-)
R953	GY	MODBUS REF
R956	WH	RLY3 SPARE
R957	WH	RLY4 SPARE
R958	WH	RLY5 SPARE (COM SD)
R959	WH	RLY6 SPARE (GRR SW)
Y983	WH	DI-01 (LOW COOLANT)
Y984	WH	DI-02 (FUEL LEAK)
Y985	WH	DI-03 SPARE
Y986	WH	DI-04 SPARE
Y987	WH	DI-05 SPARE (BTRY CHGR FAIL)
Y988	WH	DI-06 SPARE (GND FAULT)

SYMBOL	DESCRIPTION	ABBREV	COLOR
●	BLADE, SPADE, RING, OR SCREW TERMINAL	RD	RED
		WH	WHITE
	CIRCUIT CONNECTED	OR	ORANGE
		YL	YELLOW
+	CIRCUIT NOT CONNECTED	CL	CLEAR
		BK	BLACK
⏚	EARTH GROUND	GY	GRAY
		CU	COPPER
→·←	CONNECTOR	BR	BROWN
		GN	GREEN
—	ATCH WIRE, CABLE & COMPONENT	BU	BLUE
		GN_YL	GREEN/YELLOW
CBL-XXX		VI	VIOLET
	MULTI-CONDUCTOR CABLE	BK_WH	BLACK/WHITE
o o	NORMALLY CLOSED CIRCUIT		
o o	NORMALLY OPEN CIRCUIT		

HARNESS DESCRIPTION TABLE		
IDENT	PART NUMBER	DESCRIPTION
AH	399-9190	ALTERNATOR SPACE HEATER HARNESS
AN	399-9192	RS485 ANNUNCIATOR HARNESS
AX	399-9196	CB AUX CONTACTS HARNESS
BA	461-6374	RTD HARNESS
CA	502-8965	MOTORIZED DAMPERS HARNESS-C13
CC	502-8962	SOURCE LIGHTS HARNESS
CD	502-8963	20A GFCI (POWER CENTER) HARNESS
CE	502-8966	20A GFCI (CONTROL) HARNESS
CF	502-8964	ENCLOSURE SPACE HEATER HARNESS
CG	502-8968	COLD WEATHER BATTERY HARNESS
CH	502-8970	MOTORIZED DAMPERS HARNESS-C15 & C18
CK	523-9094	MOTORIZED DAMPER SWITCH HARNESS
CW	502-8960	LOAD CENTER HARNESS
EM	399-9211	EM-10 JUMPER HARNESS
EN	390-1198	ENGINE INTERFACE HARNESS
EN	449-0626	ENGINE HARNESS (C9 ENGINE)
EP	N/A	EPIC FIELD INTERCONNECTION
ER	399-9218	BATTERY CHARGER HARNESS
ET	390-1219	ENCLOSURE E-STOP HARNESS
EV	399-9212	EM-10 PWM HARNESS
FF	399-9201	SHUNT TRIP CONTROL HARNESS
FL	399-9200	FUEL TANK OPTIONS HARNESS
FT	399-9202	SHUNT TRIP HARNESS
GR	399-9204	GEN ALARM RELAYS HARNESS
JP	390-1201	JACKET WATER HEATER CORD
JW	399-9208	JACKET WATER HEATER HARNESS
PG	443-0637	IVR WITH PMG HARNESS
PL	390-1192	EMCP 4.2 INTERFACE HARNESS
RA	N/A	REMOTE ANNUNCIATOR REPRESENTATION
RC	399-9210	SHORE POWER CONTROL HARNESS
RF	399-9197	R-FRAME CB HARNESS
VA	399-9216	AC SENSING HARNESS
R	453-9691	OPTIONAL DID MODULE
DS	443-7021	OPTIONAL DEVICE SERVER
GF	390-1197	OPTIONAL GROUND FAULT INDICATION
YH	453-9692	HARNESS AS
DC	N/A	OPTIONAL DEVICE SERVER
JK	121-3365	LOW COOLANT LVL HARNESS C18PD
SM	525-8343	JUMPER HARNESS STARTER MOTOR C18PD
T	541-1578	PLG6xx HARNESS

INDEX TABLE	
SHEET INDEX	DESCRIPTION
1	CROSS REF, SHEET INDEX & NOTES
2	COMPONENT LAYOUT
3	CUSTOMER CONNECTION
4	AC - WIRING
5	INPUT/OUTPUT - WIRING
6	ENGINE INTERFACE - WIRING
7	COMMUNICATION - WIRING
8	DC/CIRCUIT BREAKERS OPTIONAL - WIRING
9	AC/SHORE POWER OPTIONAL - WIRING C9
10	AC/SHORE POWER OPTIONAL - WIRING C15 & C18
11	OPTIONS-DID MODULE AND GROUND FAULT
12	OPTIONAL DEVICE SERVER
13	COLD WEATHER OPTIONAL-C13
14	COLD WEATHER OPTIONAL-C15 & 18
15	EPIC FIELD INTERCONNECTION
16	TELEMATICS PLG601 & PLG641
17	BREAKER CIRCUIT (250 A) J FRAME

F-F	(03B1)
E-E	(02B1)
D-D	(02C1)
C-C	(02C1)
B	(03A2)
A	(03A4)
IDENT	SH/LOC
SECTION, VIEW, AND DETAIL INDEX	

NOTE A: REMOVE AND DISCARD THIS JUMPER WHEN INSTALLING REMOTE E-STOP OPTION. REPLACE WITH REMOTE E-STOP WIRES.

NOTE B: RELOCATE TERMINATING RESISTOR FROM TERMINAL STRIP TO FURTHEST REMOTE ANNUNCIATOR OR REMOTE I/O MODULE TO EXTEND ACCESSORY DATA LINK TO ADD REMOTE ANNUNCIATOR(S) AND REMOTE I/O MODULES.

NOTE C: REMOVE AND DISCARD THIS JUMPER WHEN INSTALLING ENCLOSURE E-STOP. REPLACE WITH ENCLOSURE E-STOP WIRES.

NOTE D: TERMINAL BLOCK RAIL IS FUW 250 A TO 800 A CIRCUIT BREAKERS AND IS LOCATED EXTERNAL TO THE CIRCUIT BREAKER. 1200 A CIRCUIT BREAKER HAS TERMINALS LOCATED ON THE CIRCUIT BREAKER. SECOND BREAKER (250 A-800 A) USES THE SECOND SET OF AUX AND SHUNT HARNESS.

NOTE E: USE PIN 24 WITH SECOND CIRCUIT BREAKER

NOTE F: SUPPLY APPROPRIATE VOLTAGE AND SIZE THE WIRE AWG ACCORDINGLY

NOTE G: MCP: E1TB / E1-CBT FOR GEN 1
E2TB / E2-CTB FOR GEN 2
GCP: ETB; E-CTB

NOTE H: REQUIRES EMCP4.2 PROGRAMMING

NOTE J: ONLY ONE TYPE OF SPEED BIAS SHOULD BE USED:
IF THE ANALOG SPEED BIAS IS USED THE, SPEED POT ON THE EPIC PANEL WILL NOT OPERATE
IF THE PWM SPEED BIAS IS USED, THE SPEED BRICK (9X-9591) IS REQUIRED

NOTE K: "YU" COIL HAS TO BE POWERED FOR THE BREAKER TO OPERATE, REMOVING POWER TO "YU" COIL WILL TRIP THE BREAKER.

CROSS REF, SHEET INDEX & NOTES

WIRE NAME DEFINITION:

XXXX-XX# XX-XX-XX-UL

- WIRE GAUGE
- WIRE COLOR
- WIRE NUMBER
- HARNESS IDENT
- CIRCUIT IDENT

MATL		
HT TR		
	1E5167A	INT-PROP
	1E2722F	DRAWING
	1E0198W	BRAND MARKINGS
	1E0013Y	CONFIDENTIALITY
	1E0012A	INTERPRETATION
NOTE	1E0011	INTPR & TOL
	Caterpillar: Confidential Yellow	

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X; SECONDARY

THIRD ANGLE PROJECTION

SHEET 1 OF 17

DWG CONTROL W973

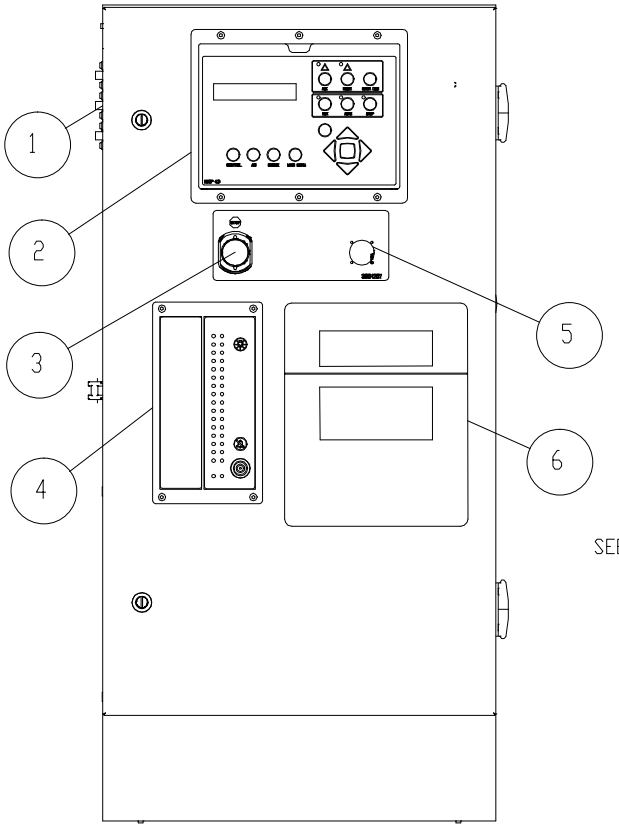
CATERPILLAR

DIAGRAM-WIRING

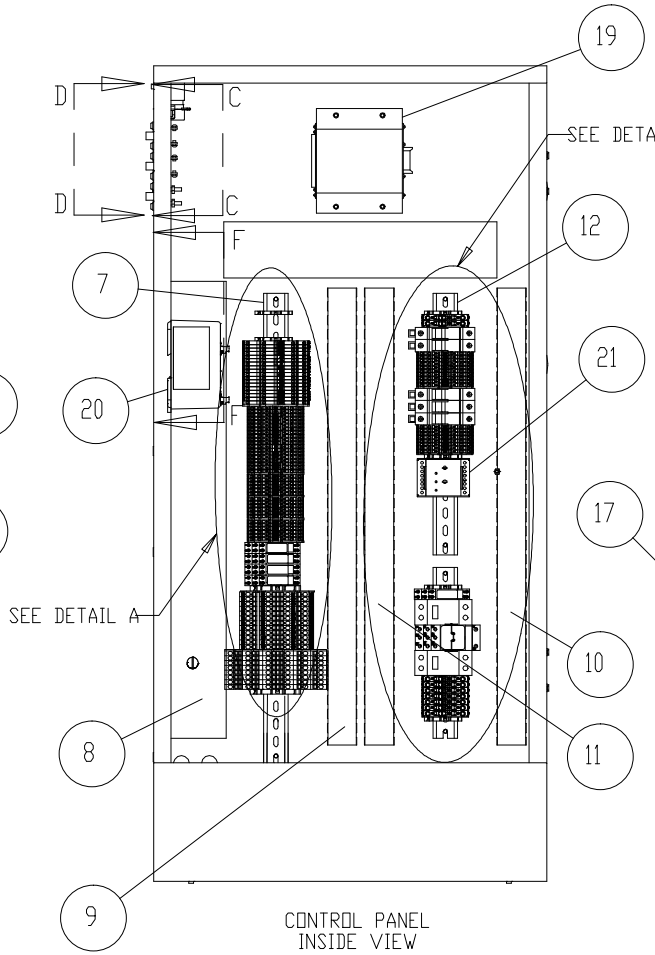
(EMCP4.2, EMCP4.2B)

390-1189 VER - CHG 10 B

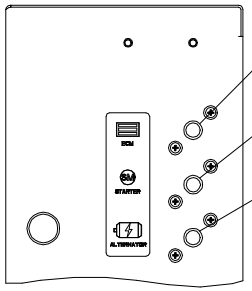
METRIC 390-1189



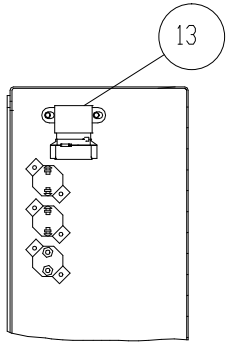
CONTROL PANEL
FRONT VIEW



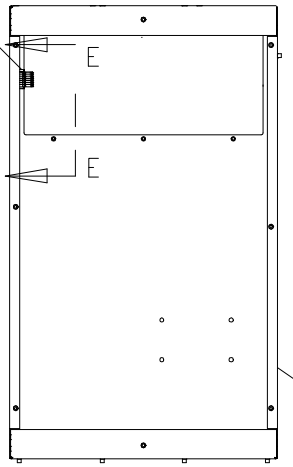
CONTROL PANEL
INSIDE VIEW



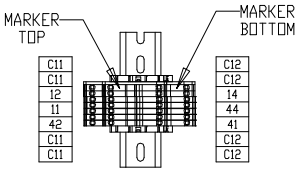
SECTION D-D
(DC-POWER DISTRIBUTION)
(CIRCUIT BREAKERS)
(02D3)



SECTION C-C
(DC-POWER DISTRIBUTION)
(CIRCUIT BREAKERS)
(02D3)



BREAKER BOX



SECTION E-E
(SHUNT TRIP CB & AUX CONTACTS)
(374-5756 & 374-5746)
(02B2)

1 EMCP 4.2 CONTROL PANEL
2 EMCP 4.2, EMCP4.2B CONTROLLER
3 ESTOP PUSH BUTTON
4 RS485 ANNUNCIATOR (OPTIONAL)
5 SERVICE TOOL CONNECTOR
6 DOCUMENT HOLDER
7 LOW ENERGY TERMINAL STRIP (DI,DO,RO,AI)
8 LOW ENERGY-DC CONTROL PANEL WIRING DUCT
9 LOW ENERGY-DC CUSTOMER WIRING DUCT
10 HIGH ENERGY AC/DC CONTROL PANEL WIRING DUCT
11 HIGH ENERGY AC/DC CUSTOMER CONNECTION DUCT
12 HIGH ENERGY TERMINAL AC/DC STRIP
13 SMMS RELAY
14 CIRCUIT BREAKER-ECM
15 CIRCUIT BREAKER-STARTER
16 CIRCUIT BREAKER-ALTERNATOR
17 BREAKER TERMINAL STRIP (OPTIONAL BREAKER)
18 BREAKER BOX
19 OPTIONAL DIO MODULE
20 OPTIONAL DEVICE SERVER
21 OPTIONAL GROUND FAULT RELAY

FOR NOTES SEE SHEET 1

COMPONENT LAYOUT

MATL		
HT TR		
	1E5167A	INT-PROP
	1E2722F	DRAWING
	1E0198W	BRAND MARKINGS
	1E0013Y	CONFIDENTIALITY
	1E0012A	INTERPRETATION
NOTE	1E0011	INTPR & TOL
	Caterpillar: Confidential Yellow	

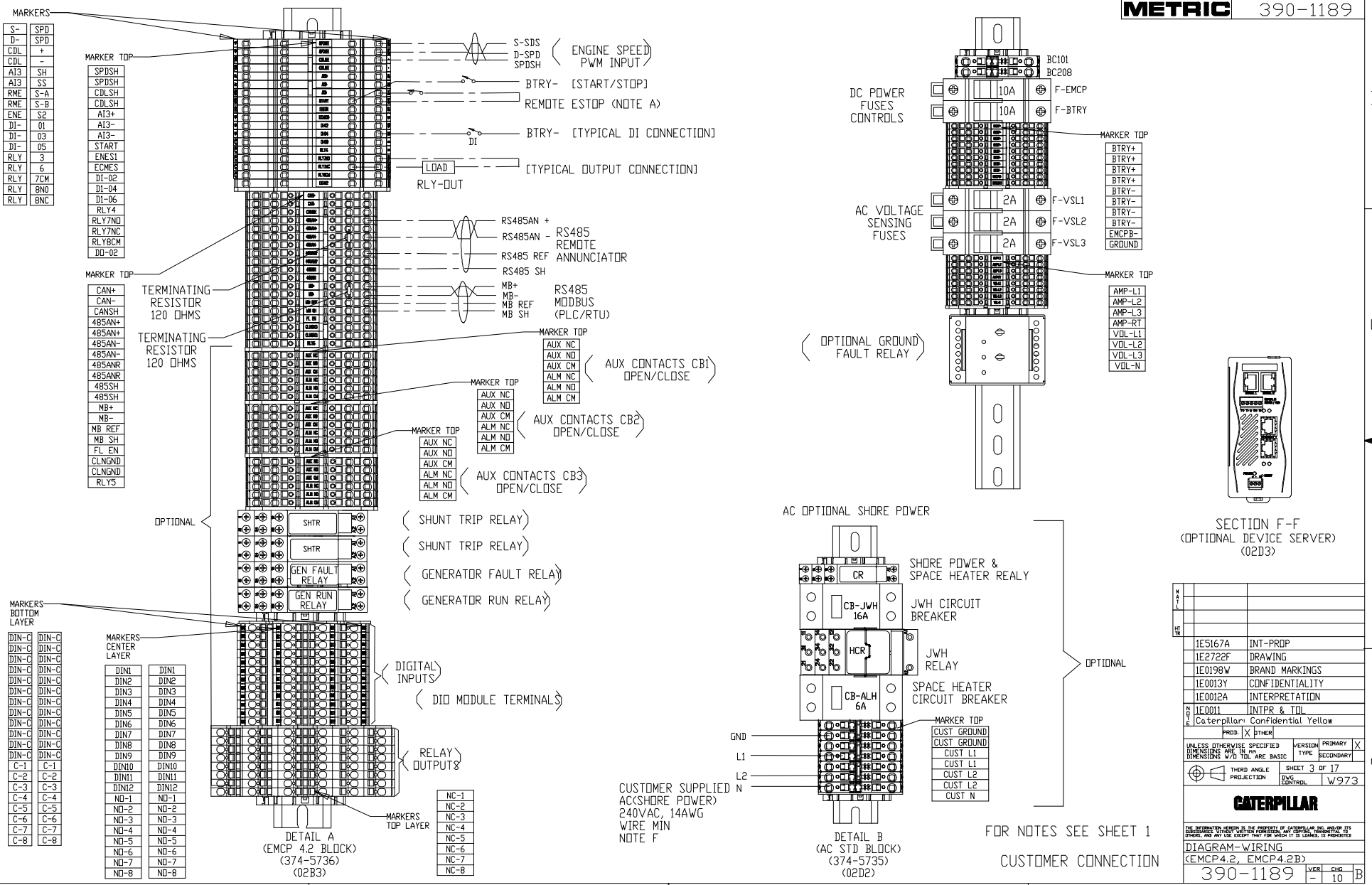
PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC
VERSION TYPE: PRIMARY X / SECONDARY
THIRD ANGLE PROJECTION
SHEET 2 OF 17
DWG CONTROL W973

CATERPILLAR

DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)
390-1189 VER - CHG 10 B

METRIC 390-1189



MAT'L		
HT TR		
	1E5167A	INT-PROP
	1E2722F	DRAWING
	1E0198W	BRAND MARKINGS
	1E0013Y	CONFIDENTIALITY
	1E0012A	INTERPRETATION
NOTE	1E0011	INTPR & TDL
	Caterpillar: Confidential Yellow	

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X, SECONDARY

THIRD ANGLE PROJECTION

SHEET 3 OF 17

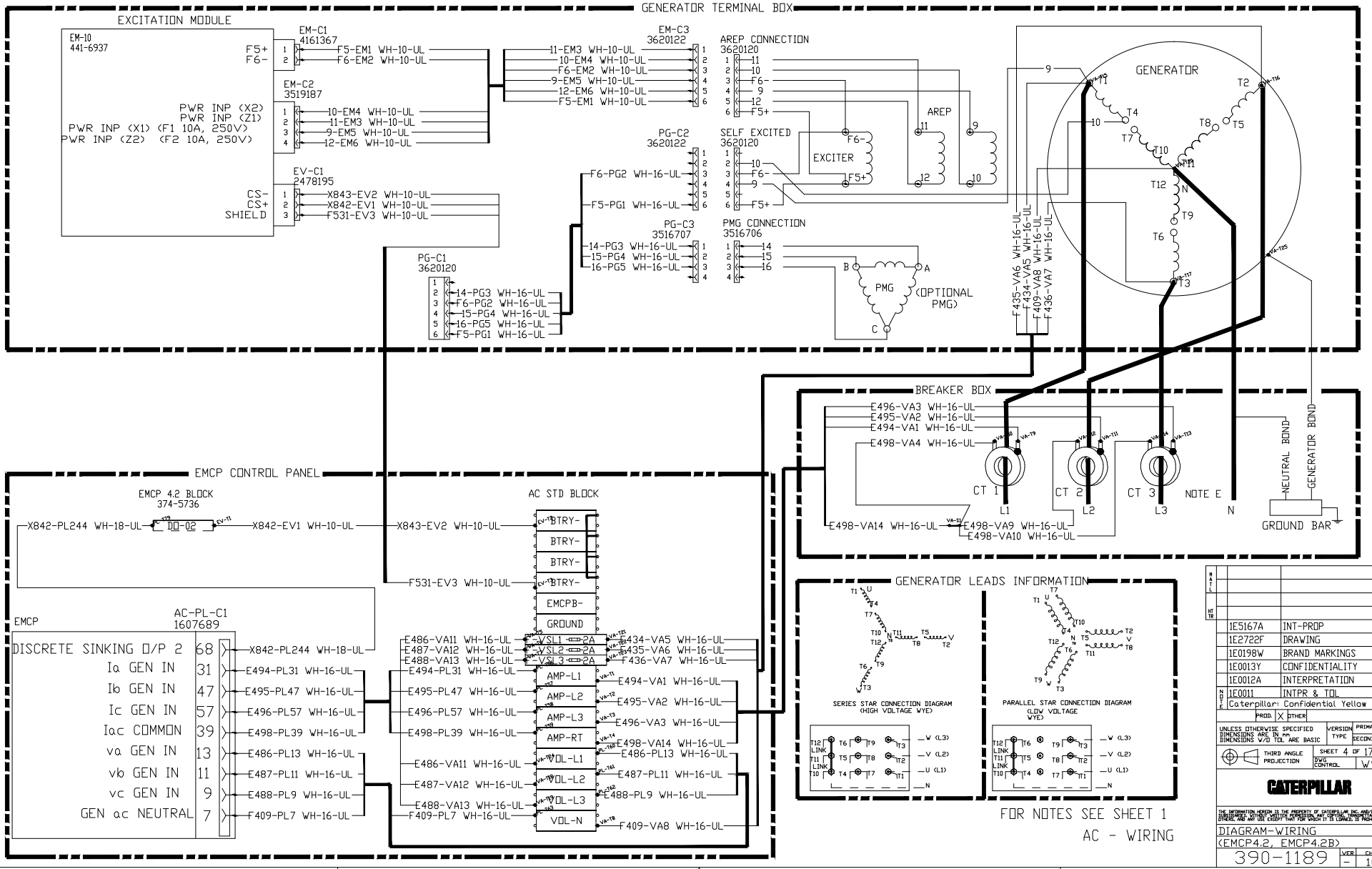
DWG CONTROL W973

CATERPILLAR

DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)

390-1189 VER - CHG 10 B

METRIC 390-1189



MATL		
HT TR		
	1E5167A	INT-PROP
	1E2722F	DRAWING
	1E0198W	BRAND MARKINGS
	1E0013Y	CONFIDENTIALITY
	1E0012A	INTERPRETATION
NOTE	1E0011	INTPR & TOL
	Caterpillar: Confidential Yellow	

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X, SECONDARY

THIRD ANGLE PROJECTION

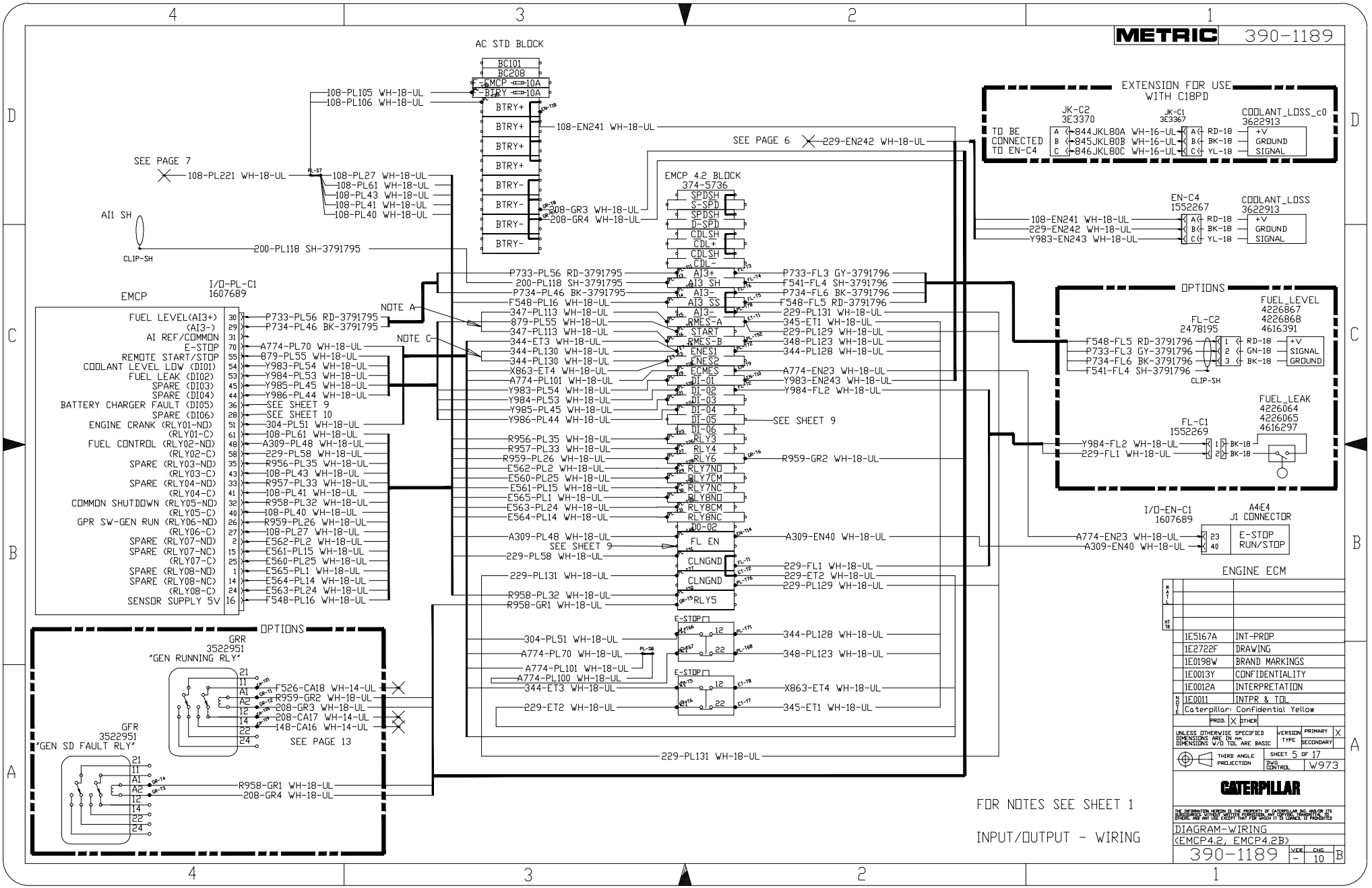
SHEET 4 OF 17

DWG CONTROL W973

CATERPILLAR

DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)

390-1189 VER - CHG 10 B


METRIC 390-1189
AC STD BLOCK
BC101
BC208
EMCP 10A
BTRY 10A
BTRY+
BTRY-
108-PL105 WH-18-UL
108-PL106 WH-18-UL
108-EN241 WH-18-UL
SEE PAGE 6
229-EN242 WH-18-UL
SEE PAGE 7
108-PL221 WH-18-UL
108-PL27 WH-18-UL
108-PL61 WH-18-UL
108-PL43 WH-18-UL
108-PL41 WH-18-UL
108-PL40 WH-18-UL
208-GR3 WH-18-UL
208-GR4 WH-18-UL
AI1 SH
CLIP-SH
200-PL118 SH-3791795
EMCP 4.2 BLOCK
374-5736
SPDSH
S-SPD
SPDSH
D-SPD
CDLSH
CDL+
CDLSH
CDL-
AI3+
AI3 SH
AI3-
AI3 SS
AI3-
RMES-A
START
RMES-B
ENES1
ENES2
ECMES
DI-01
DI-02
DI-03
DI-04
DI-05
DI-06
RLY3
RLY4
RLY6
RLY7ND
RLY7CM
RLY7NC
RLY8ND
RLY8CM
RLY8NC
DO-02
FL EN
CLNGND
CLNGND
RLY5
EXTENSION FOR USE WITH C18PD
JK-C2 3E3370
JK-C1 3E3367
COOLANT_LOSS_c0 3622913
TO BE CONNECTED TO EN-C4
844JKL80A WH-16-UL
845JKL80B WH-16-UL
846JKL80C WH-16-UL
RD-18
BK-18
YL-18
+V
GROUND
SIGNAL
EN-C4 1552267
COOLANT_LOSS 3622913
108-EN241 WH-18-UL
229-EN242 WH-18-UL
Y983-EN243 WH-18-UL
I/O-PL-C1 1607689
EMCP
FUEL LEVEL(AI3+) 30 P733-PL56 RD-3791795
(AI3-) 29 P734-PL46 BK-3791795
AI REF/COMMON 31
E-STOP 70 A774-PL70 WH-18-UL
REMOTE START/STOP 55 879-PL55 WH-18-UL
COOLANT LEVEL LOW (DI01) 54 Y983-PL54 WH-18-UL
FUEL LEAK (DI02) 53 Y984-PL53 WH-18-UL
SPARE (DI03) 45 Y985-PL45 WH-18-UL
SPARE (DI04) 44 Y986-PL44 WH-18-UL
BATTERY CHARGER FAULT (DI05) 36 SEE SHEET 9
SPARE (DI06) 28 SEE SHEET 10
ENGINE CRANK (RLY01-ND) 51 304-PL51 WH-18-UL
(RLY01-C) 61 108-PL61 WH-18-UL
FUEL CONTROL (RLY02-ND) 48 A309-PL48 WH-18-UL
(RLY02-C) 58 229-PL58 WH-18-UL
SPARE (RLY03-ND) 35 R956-PL35 WH-18-UL
(RLY03-C) 43 108-PL43 WH-18-UL
SPARE (RLY04-ND) 33 R957-PL33 WH-18-UL
(RLY04-C) 41 108-PL41 WH-18-UL
COMMON SHUTDOWN (RLY05-ND) 32 R958-PL32 WH-18-UL
(RLY05-C) 40 108-PL40 WH-18-UL
GPR SW-GEN RUN (RLY06-ND) 26 R959-PL26 WH-18-UL
(RLY06-C) 27 108-PL27 WH-18-UL
SPARE (RLY07-ND) 2 E562-PL2 WH-18-UL
SPARE (RLY07-NC) 15 E561-PL15 WH-18-UL
(RLY07-C) 25 E560-PL25 WH-18-UL
SPARE (RLY08-ND) 1 E565-PL1 WH-18-UL
SPARE (RLY08-NC) 14 E564-PL14 WH-18-UL
(RLY08-C) 24 E563-PL24 WH-18-UL
SENSOR SUPPLY 5V 16 F548-PL16 WH-18-UL
NOTE A
NOTE C
P733-PL56 RD-3791795
200-PL118 SH-3791795
P734-PL46 BK-3791795
F548-PL16 WH-18-UL
347-PL113 WH-18-UL
879-PL55 WH-18-UL
347-PL113 WH-18-UL
344-ET3 WH-18-UL
344-PL130 WH-18-UL
344-PL130 WH-18-UL
X863-ET4 WH-18-UL
A774-PL101 WH-18-UL
Y983-PL54 WH-18-UL
Y984-PL53 WH-18-UL
Y985-PL45 WH-18-UL
Y986-PL44 WH-18-UL
SEE SHEET 9
R956-PL35 WH-18-UL
R957-PL33 WH-18-UL
R959-PL26 WH-18-UL
E562-PL2 WH-18-UL
E560-PL25 WH-18-UL
E561-PL15 WH-18-UL
E565-PL1 WH-18-UL
E563-PL24 WH-18-UL
E564-PL14 WH-18-UL
A309-PL48 WH-18-UL
SEE SHEET 9
229-PL58 WH-18-UL
229-PL131 WH-18-UL
R958-PL32 WH-18-UL
R958-GR1 WH-18-UL
304-PL51 WH-18-UL
A774-PL70 WH-18-UL
A774-PL101 WH-18-UL
A774-PL100 WH-18-UL
344-ET3 WH-18-UL
229-ET2 WH-18-UL
P733-FL3 GY-3791796
F541-FL4 SH-3791796
P734-FL6 BK-3791796
F548-FL5 RD-3791796
229-PL131 WH-18-UL
229-PL129 WH-18-UL
348-PL123 WH-18-UL
344-PL128 WH-18-UL
A774-EN23 WH-18-UL
Y983-EN243 WH-18-UL
Y984-FL2 WH-18-UL
SEE SHEET 9
R959-GR2 WH-18-UL
A309-EN40 WH-18-UL
229-FL1 WH-18-UL
229-ET2 WH-18-UL
229-PL129 WH-18-UL
344-PL128 WH-18-UL
348-PL123 WH-18-UL
X863-ET4 WH-18-UL
345-ET1 WH-18-UL
229-PL131 WH-18-UL
OPTIONS
FUEL_LEVEL 4226867 4226868 4616391
FL-C2 2478195
F548-FL5 RD-3791796
P733-FL3 GY-3791796
P734-FL6 BK-3791796
F541-FL4 SH-3791796
CLIP-SH
RD-18 +V
GN-18 SIGNAL
BK-18 GROUND
FUEL_LEAK 4226064 4226065 4616297
FL-C1 1552269
Y984-FL2 WH-18-UL
229-FL1 WH-18-UL
BK-18
I/O-EN-C1 1607689
A4:E4 J1 CONNECTOR
A774-EN23 WH-18-UL
A309-EN40 WH-18-UL
23 E-STOP
40 RUN/STOP
ENGINE ECM
OPTIONS
GRR 3522951 "GEN RUNNING RLY"
GFR 3522951 "GEN SD FAULT RLY"
F526-CA18 WH-14-UL
R959-GR2 WH-18-UL
208-GR3 WH-18-UL
208-CA17 WH-14-UL
148-CA16 WH-14-UL
SEE PAGE 13
R958-GR1 WH-18-UL
208-GR4 WH-18-UL
E-STOP
FOR NOTES SEE SHEET 1
INPUT/OUTPUT - WIRING
1E5167A INT-PROP
1E2722F DRAWING
1E0198W BRAND MARKINGS
1E0013Y CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTPR & TDL
NOTE Caterpillar: Confidential Yellow
PROD. X OTHER
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC
VERSION TYPE PRIMARY X SECONDARY
THIRD ANGLE PROJECTION
SHEET 5 OF 17
DWG CONTROL W973
CATERPILLAR
DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)
390-1189 VER - CHG 10 B

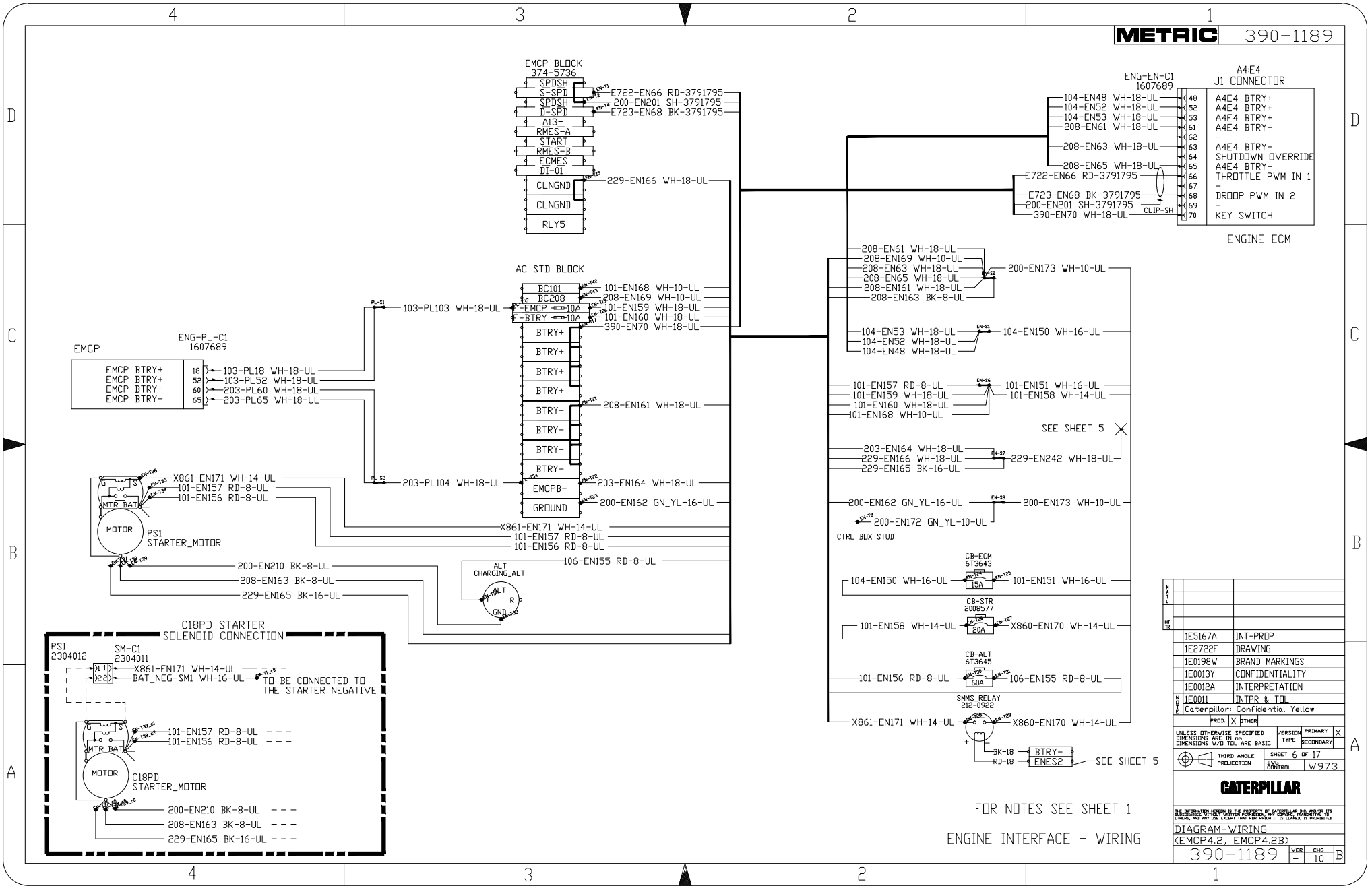

METRIC 390-1189
EMCP BLOCK
374-5736
SPDSH
S-SPD
SPDSH
D-SPD
A13-
RMES-A
START
RMES-B
ECMES
DI-01
CLNGND
CLNGND
RLY5
E722-EN66 RD-3791795
200-EN201 SH-3791795
E723-EN68 BK-3791795
229-EN166 WH-18-UL
ENG-EN-C1
1607689
A4:E4
J1 CONNECTOR
104-EN48 WH-18-UL
104-EN52 WH-18-UL
104-EN53 WH-18-UL
208-EN61 WH-18-UL
208-EN63 WH-18-UL
208-EN65 WH-18-UL
E722-EN66 RD-3791795
E723-EN68 BK-3791795
200-EN201 SH-3791795
390-EN70 WH-18-UL
CLIP-SH
48 A4E4 BTRY+
52 A4E4 BTRY+
53 A4E4 BTRY+
61 A4E4 BTRY-
62 -
63 A4E4 BTRY-
64 SHUTDOWN OVERRIDE
65 A4E4 BTRY-
66 THROTTLE PWM IN 1
67 -
68 DROOP PWM IN 2
69 -
70 KEY SWITCH
ENGINE ECM
AC STD BLOCK
BC101
BC208
-EMCP 10A
-BTRY 10A
BTRY+
BTRY+
BTRY+
BTRY+
BTRY-
BTRY-
BTRY-
BTRY-
EMCPB-
GROUND
101-EN168 WH-10-UL
208-EN169 WH-10-UL
101-EN159 WH-18-UL
101-EN160 WH-18-UL
390-EN70 WH-18-UL
208-EN161 WH-18-UL
203-EN164 WH-18-UL
200-EN162 GN_YL-16-UL
103-PL103 WH-18-UL
203-PL104 WH-18-UL
EMCP
ENG-PL-C1
1607689
EMCP BTRY+ 18 103-PL18 WH-18-UL
EMCP BTRY+ 52 103-PL52 WH-18-UL
EMCP BTRY- 60 203-PL60 WH-18-UL
EMCP BTRY- 65 203-PL65 WH-18-UL
X861-EN171 WH-14-UL
101-EN157 RD-8-UL
101-EN156 RD-8-UL
MTR BAT
MOTOR
PS1
STARTER_MOTOR
200-EN210 BK-8-UL
208-EN163 BK-8-UL
229-EN165 BK-16-UL
106-EN155 RD-8-UL
ALT
CHARGING_ALT
208-EN61 WH-18-UL
208-EN169 WH-10-UL
208-EN63 WH-18-UL
208-EN65 WH-18-UL
208-EN161 WH-18-UL
208-EN163 BK-8-UL
200-EN173 WH-10-UL
104-EN53 WH-18-UL
104-EN52 WH-18-UL
104-EN48 WH-18-UL
104-EN150 WH-16-UL
101-EN157 RD-8-UL
101-EN159 WH-18-UL
101-EN160 WH-18-UL
101-EN168 WH-10-UL
101-EN151 WH-16-UL
101-EN158 WH-14-UL
SEE SHEET 5
203-EN164 WH-18-UL
229-EN166 WH-18-UL
229-EN165 BK-16-UL
229-EN242 WH-18-UL
200-EN162 GN_YL-16-UL
200-EN173 WH-10-UL
200-EN172 GN_YL-10-UL
CTRL BOX STUD
CB-ECM
6T3643
15A
104-EN150 WH-16-UL
101-EN151 WH-16-UL
CB-STR
2008577
20A
101-EN158 WH-14-UL
X860-EN170 WH-14-UL
CB-ALT
6T3645
60A
101-EN156 RD-8-UL
106-EN155 RD-8-UL
SMMS_RELAY
212-0922
X861-EN171 WH-14-UL
X860-EN170 WH-14-UL
BK-18
RD-18
BTRY-
ENES2
SEE SHEET 5
C18PD STARTER
SOLENOID CONNECTION
PSI
2304012
SM-C1
2304011
X861-EN171 WH-14-UL
BAT_NEG-SM1 WH-16-UL
TO BE CONNECTED TO
THE STARTER NEGATIVE
101-EN157 RD-8-UL
101-EN156 RD-8-UL
MTR BAT
MOTOR
C18PD
STARTER_MOTOR
200-EN210 BK-8-UL
208-EN163 BK-8-UL
229-EN165 BK-16-UL
FOR NOTES SEE SHEET 1
ENGINE INTERFACE - WIRING
1E5167A INT-PROP
1E2722F DRAWING
1E0198W BRAND MARKINGS
1E0013Y CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTPR & TDL
Caterpillar: Confidential Yellow
PROD. X OTHER
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC
VERSION TYPE PRIMARY X SECONDARY
THIRD ANGLE PROJECTION
SHEET 6 OF 17
DWG CONTROL W973
CATERPILLAR
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DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)
390-1189 VER - CHG 10 B

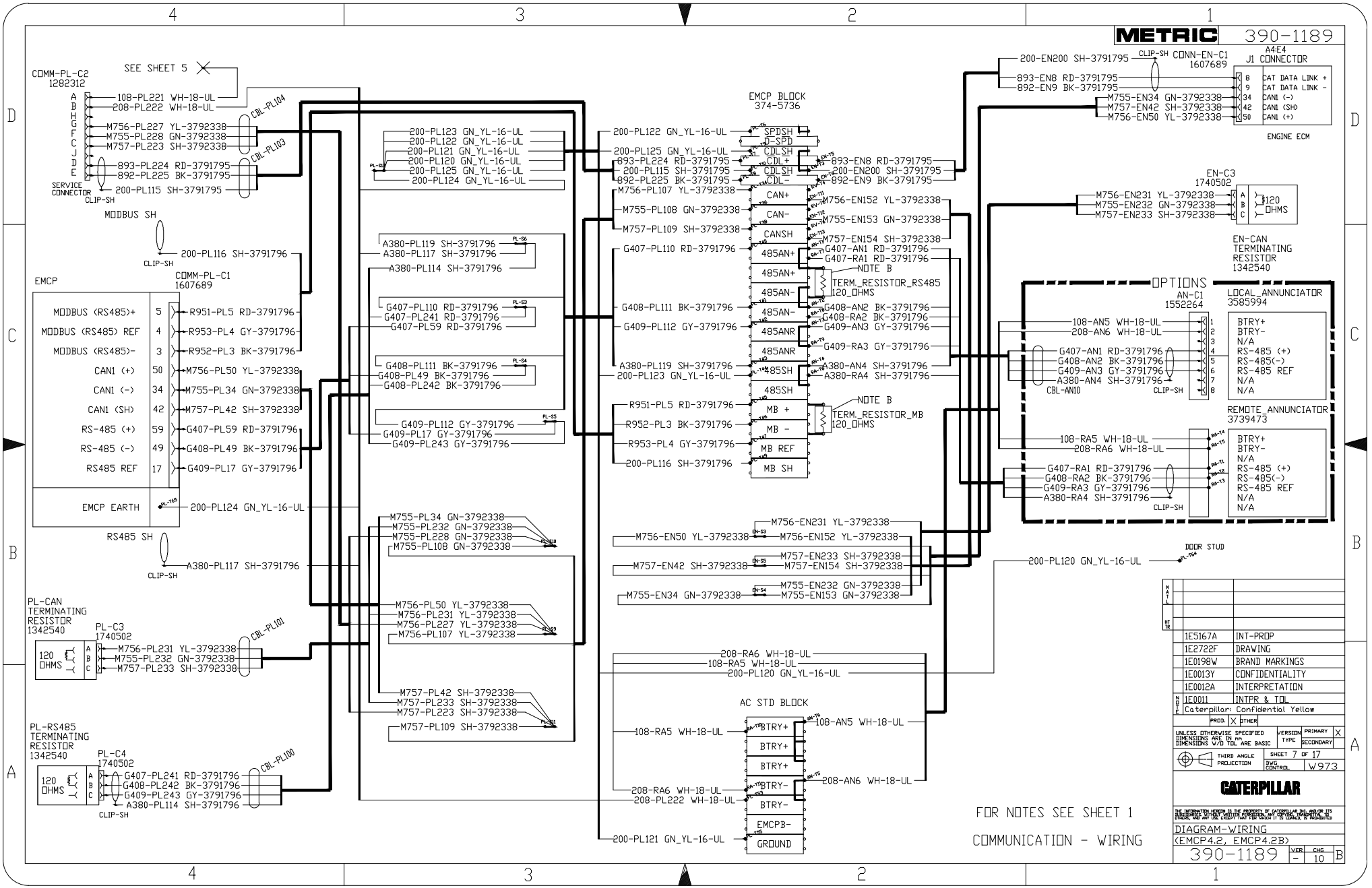
METRIC 390-1189
COMM-PL-C2 1282312
SEE SHEET 5
108-PL221 WH-18-UL
208-PL222 WH-18-UL
M756-PL227 YL-3792338
M755-PL228 GN-3792338
M757-PL223 SH-3792338
893-PL224 RD-3791795
892-PL225 BK-3791795
200-PL115 SH-3791795
CBL-PL104
CBL-PL103
SERVICE CONNECTOR
CLIP-SH
MODBUS SH
200-PL116 SH-3791796
EMCP
COMM-PL-C1 1607689
MODBUS (RS485)+ 5 R951-PL5 RD-3791796
MODBUS (RS485) REF 4 R953-PL4 GY-3791796
MODBUS (RS485)- 3 R952-PL3 BK-3791796
CAN1 (+) 50 M756-PL50 YL-3792338
CAN1 (-) 34 M755-PL34 GN-3792338
CAN1 (SH) 42 M757-PL42 SH-3792338
RS-485 (+) 59 G407-PL59 RD-3791796
RS-485 (-) 49 G408-PL49 BK-3791796
RS485 REF 17 G409-PL17 GY-3791796
EMCP EARTH 200-PL124 GN_YL-16-UL
RS485 SH
A380-PL117 SH-3791796
PL-CAN TERMINATING RESISTOR 1342540
PL-C3 1740502
120 OHMS
M756-PL231 YL-3792338
M755-PL232 GN-3792338
M757-PL233 SH-3792338
CBL-PL101
PL-RS485 TERMINATING RESISTOR 1342540
PL-C4 1740502
G407-PL241 RD-3791796
G408-PL242 BK-3791796
G409-PL243 GY-3791796
A380-PL114 SH-3791796
CBL-PL100
200-PL123 GN_YL-16-UL
200-PL122 GN_YL-16-UL
200-PL121 GN_YL-16-UL
200-PL120 GN_YL-16-UL
200-PL125 GN_YL-16-UL
200-PL124 GN_YL-16-UL
A380-PL119 SH-3791796
A380-PL117 SH-3791796
A380-PL114 SH-3791796
G407-PL110 RD-3791796
G407-PL241 RD-3791796
G407-PL59 RD-3791796
G408-PL111 BK-3791796
G408-PL49 BK-3791796
G408-PL242 BK-3791796
G409-PL112 GY-3791796
G409-PL17 GY-3791796
G409-PL243 GY-3791796
M755-PL34 GN-3792338
M755-PL232 GN-3792338
M755-PL228 GN-3792338
M755-PL108 GN-3792338
M756-PL50 YL-3792338
M756-PL231 YL-3792338
M756-PL227 YL-3792338
M756-PL107 YL-3792338
M757-PL42 SH-3792338
M757-PL233 SH-3792338
M757-PL223 SH-3792338
M757-PL109 SH-3792338
EMCP BLOCK 374-5736
SPDSH
D-SPD
CDLSH
CDL+
CDLSH
CDL-
CAN+
CAN-
CANSH
485AN+
485AN+
485AN-
485AN-
485ANR
485ANR
485SH
485SH
MB +
MB -
MB REF
MB SH
200-PL122 GN_YL-16-UL
200-PL125 GN_YL-16-UL
893-PL224 RD-3791795
200-PL115 SH-3791795
892-PL225 BK-3791795
M756-PL107 YL-3792338
M755-PL108 GN-3792338
M757-PL109 SH-3792338
G407-PL110 RD-3791796
G408-PL111 BK-3791796
G409-PL112 GY-3791796
A380-PL119 SH-3791796
200-PL123 GN_YL-16-UL
R951-PL5 RD-3791796
R952-PL3 BK-3791796
R953-PL4 GY-3791796
200-PL116 SH-3791796
893-EN8 RD-3791795
200-EN200 SH-3791795
892-EN9 BK-3791795
M756-EN152 YL-3792338
M755-EN153 GN-3792338
M757-EN154 SH-3792338
G407-AN1 RD-3791796
G407-RA1 RD-3791796
NOTE B
TERM._RESISTOR_RS485 120_OHMS
G408-AN2 BK-3791796
G408-RA2 BK-3791796
G409-AN3 GY-3791796
G409-RA3 GY-3791796
A380-AN4 SH-3791796
A380-RA4 SH-3791796
NOTE B
TERM._RESISTOR_MB 120_OHMS
M756-EN231 YL-3792338
M756-EN50 YL-3792338
M757-EN233 SH-3792338
M757-EN42 SH-3792338
M755-EN232 GN-3792338
M755-EN34 GN-3792338
208-RA6 WH-18-UL
108-RA5 WH-18-UL
200-PL120 GN_YL-16-UL
AC STD BLOCK
BTRY+
BTRY+
BTRY+
BTRY-
BTRY-
EMCPB-
GROUND
108-RA5 WH-18-UL
208-RA6 WH-18-UL
208-PL222 WH-18-UL
200-PL121 GN_YL-16-UL
108-AN5 WH-18-UL
208-AN6 WH-18-UL
200-EN200 SH-3791795
893-EN8 RD-3791795
892-EN9 BK-3791795
M755-EN34 GN-3792338
M757-EN42 SH-3792338
M756-EN50 YL-3792338
CLIP-SH
CONN-EN-C1 1607689
A4:E4
J1 CONNECTOR
8 CAT DATA LINK +
9 CAT DATA LINK -
34 CAN1 (-)
42 CAN1 (SH)
50 CAN1 (+)
ENGINE ECM
EN-C3 1740502
M756-EN231 YL-3792338
M755-EN232 GN-3792338
M757-EN233 SH-3792338
120 OHMS
EN-CAN TERMINATING RESISTOR 1342540
OPTIONS
AN-C1 1552264
LOCAL_ANNUNCIATOR 3585994
108-AN5 WH-18-UL
208-AN6 WH-18-UL
G407-AN1 RD-3791796
G408-AN2 BK-3791796
G409-AN3 GY-3791796
A380-AN4 SH-3791796
CBL-AN10
CLIP-SH
BTRY+
BTRY-
N/A
RS-485 (+)
RS-485(-)
RS-485 REF
N/A
N/A
REMOTE_ANNUNCIATOR 3739473
108-RA5 WH-18-UL
208-RA6 WH-18-UL
G407-RA1 RD-3791796
G408-RA2 BK-3791796
G409-RA3 GY-3791796
A380-RA4 SH-3791796
CLIP-SH
BTRY+
BTRY-
N/A
RS-485 (+)
RS-485(-)
RS-485 REF
N/A
N/A
DOOR STUD
200-PL120 GN_YL-16-UL
1E5167A INT-PROP
1E2722F DRAWING
1E0198W BRAND MARKINGS
1E0013Y CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTPR & TDL
NOTE Caterpillar: Confidential Yellow
PROD. X OTHER
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC
VERSION TYPE PRIMARY X SECONDARY
THIRD ANGLE PROJECTION
SHEET 7 OF 17
DWG CONTROL W973
CATERPILLAR
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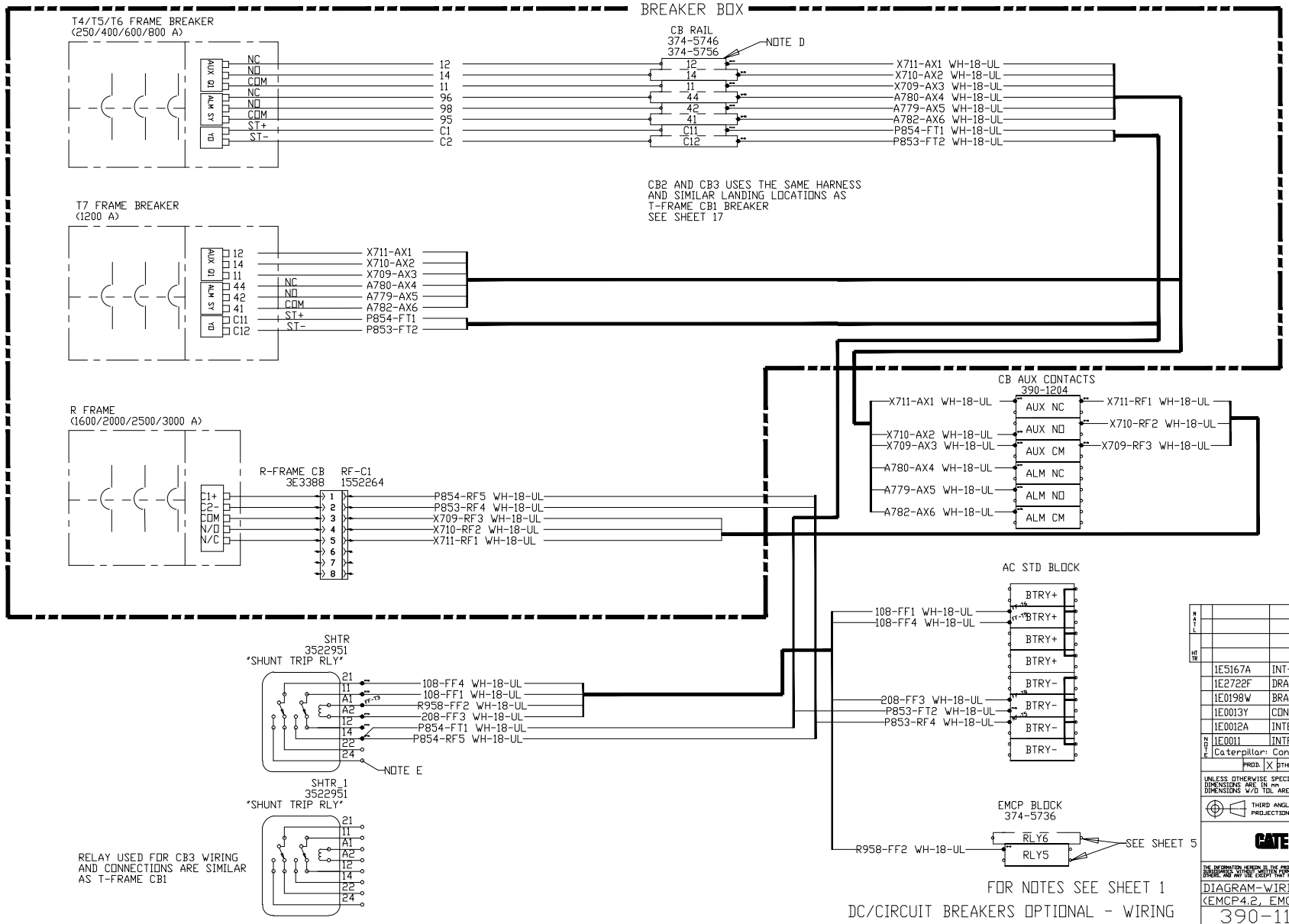
DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)
390-1189 VER - CHG 10 B
FOR NOTES SEE SHEET 1
COMMUNICATION - WIRING

METRIC 390-1189



FOR NOTES SEE SHEET 1

DC/CIRCUIT BREAKERS OPTIONAL - WIRING

MATL		
HT TR		
	1E5167A	INT-PROP
	1E2722F	DRAWING
	1E0198W	BRAND MARKINGS
	1E0013Y	CONFIDENTIALITY
	1E0012A	INTERPRETATION
NOTE	1E0011	INTPR & TDL
	Caterpillar: Confidential Yellow	

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X, SECONDARY

THIRD ANGLE PROJECTION

SHEET 8 OF 17

DWG CONTROL W973

CATERPILLAR

DIAGRAM-WIRING

<EMCP4.2, EMCP4.2B>

390-1189 VER - CHG 10 B

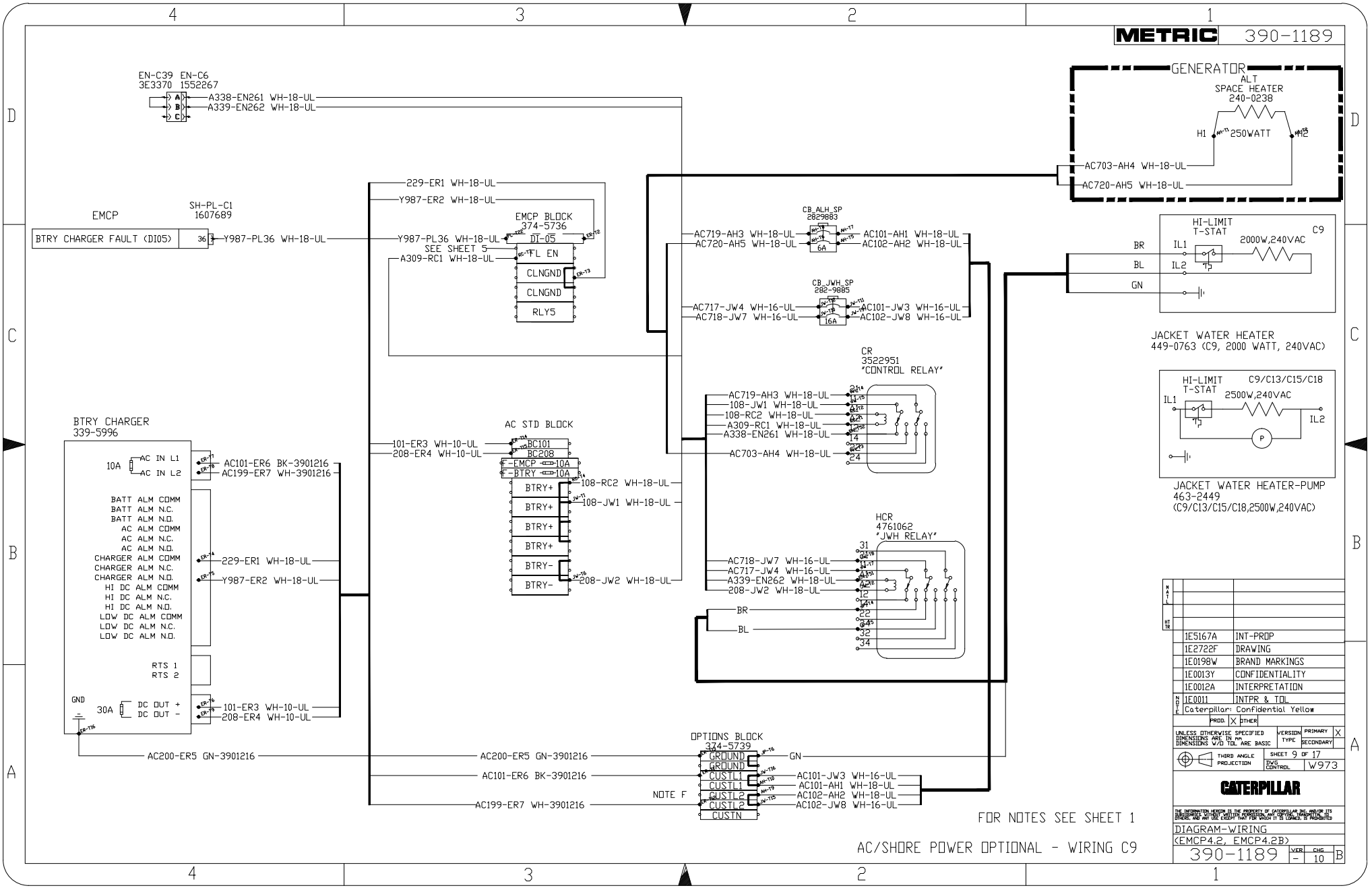

METRIC 390-1189
GENERATOR
ALT
SPACE HEATER
240-0238
H1
250WATT
H2
AC703-AH4 WH-18-UL
AC720-AH5 WH-18-UL
EN-C39 EN-C6
3E3370 1552267
A338-EN261 WH-18-UL
A339-EN262 WH-18-UL
EMCP
SH-PL-C1
1607689
BTRY CHARGER FAULT (DI05)
36
Y987-PL36 WH-18-UL
229-ER1 WH-18-UL
Y987-ER2 WH-18-UL
EMCP BLOCK
374-5736
DI-05
FL EN
CLNGND
CLNGND
RLY5
SEE SHEET 5
A309-RC1 WH-18-UL
CB_ALH_SP
2829883
6A
AC719-AH3 WH-18-UL
AC720-AH5 WH-18-UL
AC101-AH1 WH-18-UL
AC102-AH2 WH-18-UL
CB_JWH_SP
282-9885
16A
AC717-JW4 WH-16-UL
AC718-JW7 WH-16-UL
AC101-JW3 WH-16-UL
AC102-JW8 WH-16-UL
HI-LIMIT
T-STAT
C9
2000W,240VAC
BR
BL
GN
IL1
IL2
JACKET WATER HEATER
449-0763 (C9, 2000 WATT, 240VAC)
CR
3522951
"CONTROL RELAY"
AC719-AH3 WH-18-UL
108-JW1 WH-18-UL
108-RC2 WH-18-UL
A309-RC1 WH-18-UL
A338-EN261 WH-18-UL
AC703-AH4 WH-18-UL
HI-LIMIT
T-STAT
C9/C13/C15/C18
2500W,240VAC
IL1
IL2
P
JACKET WATER HEATER-PUMP
463-2449
(C9/C13/C15/C18,2500W,240VAC)
BTRY CHARGER
339-5996
10A
AC IN L1
AC IN L2
AC101-ER6 BK-3901216
AC199-ER7 WH-3901216
BATT ALM COMM
BATT ALM N.C.
BATT ALM N.O.
AC ALM COMM
AC ALM N.C.
AC ALM N.O.
CHARGER ALM COMM
CHARGER ALM N.C.
CHARGER ALM N.O.
HI DC ALM COMM
HI DC ALM N.C.
HI DC ALM N.O.
LOW DC ALM COMM
LOW DC ALM N.C.
LOW DC ALM N.O.
229-ER1 WH-18-UL
Y987-ER2 WH-18-UL
RTS 1
RTS 2
GND
30A
DC OUT +
DC OUT -
101-ER3 WH-10-UL
208-ER4 WH-10-UL
AC STD BLOCK
BC101
BC208
F-EMCP 10A
F-BTRY 10A
BTRY+
BTRY+
BTRY+
BTRY+
BTRY-
BTRY-
108-RC2 WH-18-UL
108-JW1 WH-18-UL
208-JW2 WH-18-UL
HCR
4761062
"JWH RELAY"
AC718-JW7 WH-16-UL
AC717-JW4 WH-16-UL
A339-EN262 WH-18-UL
208-JW2 WH-18-UL
BR
BL
AC200-ER5 GN-3901216
AC101-ER6 BK-3901216
AC199-ER7 WH-3901216
OPTIONS BLOCK
374-5739
GROUND
GROUND
CUSTL1
CUSTL1
CUSTL2
CUSTL2
CUSTN
GN
AC101-JW3 WH-16-UL
AC101-AH1 WH-18-UL
AC102-AH2 WH-18-UL
AC102-JW8 WH-16-UL
NOTE F
FOR NOTES SEE SHEET 1
AC/SHORE POWER OPTIONAL - WIRING C9
1E5167A INT-PROP
1E2722F DRAWING
1E0198W BRAND MARKINGS
1E0013Y CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTPR & TOL
Caterpillar: Confidential Yellow
PROD. X OTHER
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC
VERSION TYPE PRIMARY X SECONDARY
THIRD ANGLE PROJECTION
SHEET 9 OF 17
DVC CONTROL W973
CATERPILLAR
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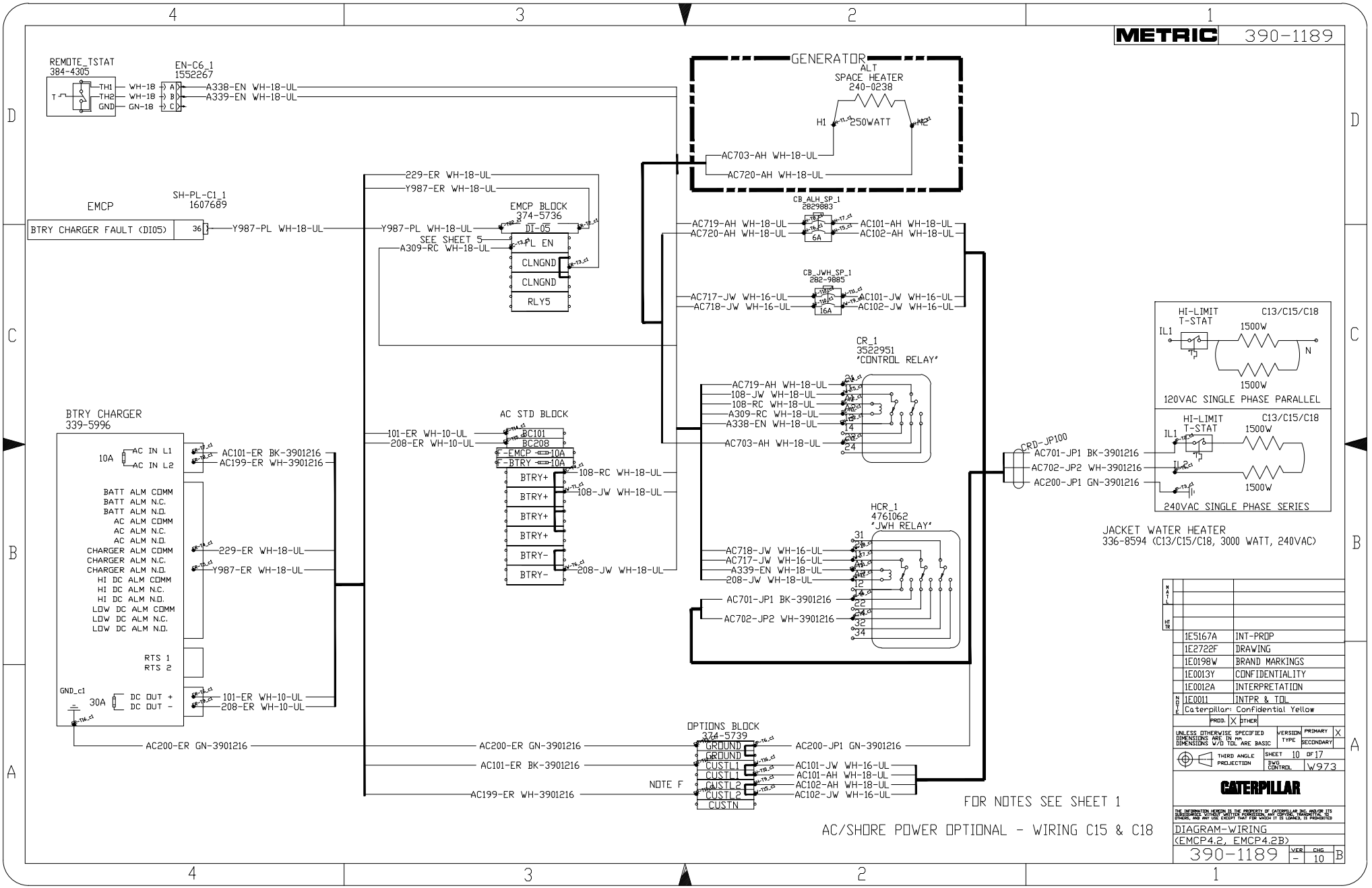
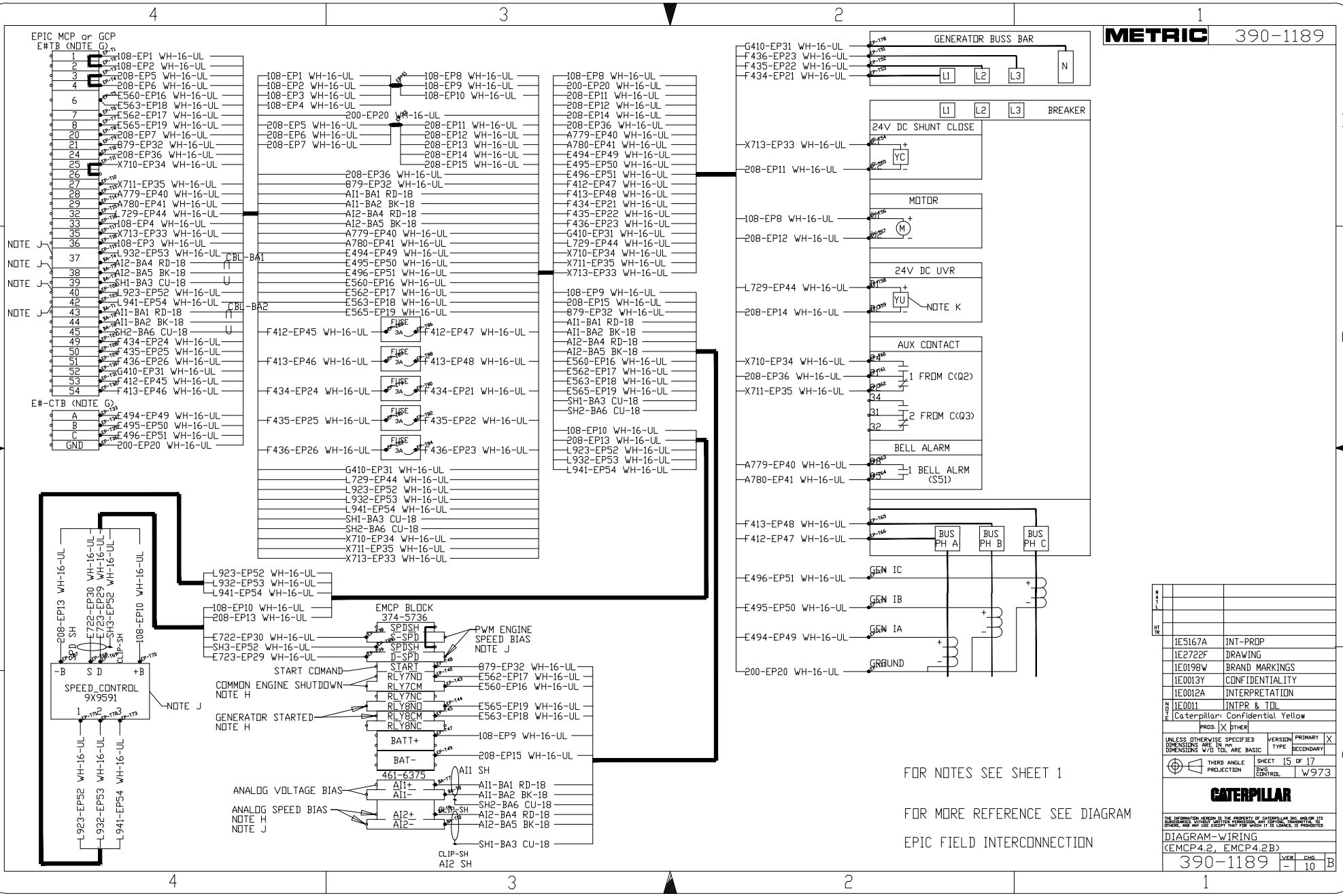
DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)
390-1189 VER - CHG 10 B


METRIC 390-1189
REMOTE_TSTAT
384-4305
EN-C6_1
1552267
GENERATOR
ALT
SPACE HEATER
240-0238
250WATT
AC703-AH WH-18-UL
AC720-AH WH-18-UL
EMCP
SH-PL-C1_1
1607689
BTRY CHARGER FAULT (DI05)
Y987-PL WH-18-UL
EMCP BLOCK
374-5736
DI-05
PL EN
CLNGND
RLYS
SEE SHEET 5
A309-RC WH-18-UL
229-ER WH-18-UL
CB_ALH_SP_1
2829883
6A
AC719-AH WH-18-UL
AC101-AH WH-18-UL
AC102-AH WH-18-UL
CB_JWH_SP_1
282-9885
16A
AC717-JW WH-16-UL
AC101-JW WH-16-UL
AC718-JW WH-16-UL
AC102-JW WH-16-UL
CR_1
3522951
"CONTROL RELAY"
BTRY CHARGER
339-5996
AC IN L1
AC IN L2
10A
AC101-ER BK-3901216
AC199-ER WH-3901216
BATT ALM COMM
BATT ALM N.C.
BATT ALM N.O.
AC ALM COMM
AC ALM N.C.
AC ALM N.O.
CHARGER ALM COMM
CHARGER ALM N.C.
CHARGER ALM N.O.
HI DC ALM COMM
HI DC ALM N.C.
HI DC ALM N.O.
LOW DC ALM COMM
LOW DC ALM N.C.
LOW DC ALM N.O.
229-ER WH-18-UL
Y987-ER WH-18-UL
RTS 1
RTS 2
GND_c1
30A
DC OUT +
DC OUT -
101-ER WH-10-UL
208-ER WH-10-UL
AC STD BLOCK
BC101
BC208
F-EMCP 10A
F-BTRY 10A
BTRY+
BTRY-
101-ER WH-10-UL
208-ER WH-10-UL
108-RC WH-18-UL
108-JW WH-18-UL
208-JW WH-18-UL
HCR_1
4761062
"JWH RELAY"
AC718-JW WH-16-UL
AC717-JW WH-16-UL
A339-EN WH-18-UL
CRD-JP100
AC701-JP1 BK-3901216
AC702-JP2 WH-3901216
AC200-JP1 GN-3901216
HI-LIMIT
T-STAT
C13/C15/C18
1500W
120VAC SINGLE PHASE PARALLEL
240VAC SINGLE PHASE SERIES
JACKET WATER HEATER
336-8594 (C13/C15/C18, 3000 WATT, 240VAC)
AC200-ER GN-3901216
OPTIONS BLOCK
374-5739
GROUND
CUSTL1
CUSTL2
CUSTN
AC101-ER BK-3901216
AC199-ER WH-3901216
NOTE F
FOR NOTES SEE SHEET 1
AC/SHORE POWER OPTIONAL - WIRING C15 & C18
1E5167A INT-PROP
1E2722F DRAWING
1E0198W BRAND MARKINGS
1E0013Y CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTPR & TOL
NOTE Caterpillar: Confidential Yellow
PROD. X OTHER
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm. DIMENSIONS W/O TOL ARE BASIC
VERSION TYPE PRIMARY X SECONDARY
THIRD ANGLE PROJECTION
SHEET 10 OF 17
DWG CONTROL W973
CATERPILLAR
DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)
390-1189 VER - CHG 10 B


METRIC
390-1189
EPIC MCP or GCP
E#TB (NOTE G)
E#-CTB (NOTE G)
GENERATOR BUSS BAR
BREAKER
24V DC SHUNT CLOSE
MOTOR
24V DC UVR
AUX CONTACT
BELL ALARM
NOTE K
1 FROM C(Q2)
2 FROM C(Q3)
1 BELL ALRM (S51)
BUS PH A
BUS PH B
BUS PH C
GEN IC
GEN IB
GEN IA
GROUND
CBL-BA1
CBL-BA2
FUSE 3A
EMCP BLOCK 374-5736
SPDSH
S-SPD
SPDSH
D-SPD
PWM ENGINE SPEED BIAS NOTE J
START
RLY7ND
RLY7CM
RLY7NC
RLY8ND
RLY8CM
RLY8NC
BATT+
BAT-
461-6375
AI1+
AI1-
AI2+
AI2-
START COMAND
COMMON ENGINE SHUTDOWN NOTE H
GENERATOR STARTED NOTE H
ANALOG VOLTAGE BIAS
ANALOG SPEED BIAS NOTE H NOTE J
SPEED CONTROL 9X9591
NOTE J
FOR NOTES SEE SHEET 1
FOR MORE REFERENCE SEE DIAGRAM
EPIC FIELD INTERCONNECTION
1E5167A INT-PROP
1E2722F DRAWING
1E0198W BRAND MARKINGS
1E0013Y CONFIDENTIALITY
1E0012A INTERPRETATION
1E0011 INTPR & TDL
Caterpillar: Confidential Yellow
PROD. X OTHER
THIRD ANGLE PROJECTION
SHEET 15 OF 17
DWG CONTROL W973
CATERPILLAR
DIAGRAM-WIRING
(EMCP4.2, EMCP4.2B)
390-1189 VER - CHG 10 B

Effective with sales to the first user on or after August 1, 2016

CATERPILLAR LIMITED WARRANTY

Industrial, Petroleum, Locomotive, and Agriculture Engine Products and Electric Power Generation Products

Worldwide

Caterpillar Inc. or any of its subsidiaries ("Caterpillar") warrants new and remanufactured engines and new and rebuild electric power generation products sold by it (including any products of other manufacturers packaged and sold by Caterpillar), to be free from defects in material and workmanship.

This warranty does not apply engines sold for use in on-highway vehicle or marine applications; engines in machines manufactured by or for Caterpillar; C175, 3500 and 3600 series engines used in locomotive applications; 3000 Family engines, C0.5 through C4.4 and ACERT™ (C6.6, C7, C7.1, C9, C9.3, C11, C13, C15, C18, C27, and C32) engines used in industrial, mobile agriculture and locomotive applications; or Cat® batteries; or Electric Power Generation Products manufactured or assembled in India. These products are covered by other Caterpillar warranties.

This warranty is subject to the following:

Warranty Period

- For industrial engines, engines in a petroleum applications or Petroleum Power Systems (excluding petroleum fire pump application), or engines in a Locomotive application, or Uninterruptible Power Supply (UPS) systems, the warranty period is 12 months after date of delivery to the first user.
- For engines used in petroleum fire pump and mobile agriculture applications the warranty period is 24 months after date of delivery to the first user.
- For controls only (EPIC), configurable and custom switchgear products, and automatic transfer switch products, the warranty period is 24 months after date of delivery to the first user.
- For new CG132, CG170 and CG260 series power generation products the warranty period is 24 months/16,000 hours, whichever comes first, after date of delivery to first user.
- For electric power generation products other than CG132, CG170 and CG260 series in prime or continuous applications the warranty period is 12 months. For standby applications the warranty period is 24 months/1000 hours. For emergency standby applications the warranty period is 24 months/400 hours. All terms begin after date of delivery to the first user.
- For Caterpillar rebuild electric power generation products the warranty period is 12 months, but not to exceed 24 months from shipment of rebuilt electric power generation product from Caterpillar.
- For all other applications the warranty period is 12 months after date of delivery to the first user.

Caterpillar Responsibilities

If a defect in material or workmanship is found during the warranty period, Caterpillar will, during normal working hours and at a place of business of a Cat dealer or other source approved by Caterpillar:

- Provide (at Caterpillar's choice) new, Remanufactured, or Caterpillar approved repaired parts or assembled components needed to correct the defect.

Note: New, remanufactured, or Caterpillar approved repaired parts or assembled components provided under the terms of this warranty are warranted for the remainder of the warranty period applicable to the product in which installed as if such parts were original components of that product. Items replaced under this warranty become the property of Caterpillar.

- Replace lubricating oil, filters, coolant, and other service items made unusable by the defect.
- Provide reasonable and customary labor needed to correct the defect, including labor to disconnect the product from and reconnect the product to its attached equipment, mounting, and support systems, if required.

For new 3114, 3116, and 3126 engines and, new and Caterpillar rebuild electric power generation products (which includes the following: any new products of other manufacturers packaged and sold by Caterpillar)

- Provide travel labor, up to four hours round trip, if in the opinion of Caterpillar, the product cannot reasonably be transported to a place of business of a Cat dealer or other source approved by Caterpillar (travel labor in excess of four hours round trip, and any meals, mileage, lodging, etc. is the user's responsibility).

For all other products:

- Provide reasonable travel expenses for authorized mechanics, including meals, mileage, and lodging, when Caterpillar chooses to make the repair on-site.

User Responsibilities

The user is responsible for:

- Providing proof of the delivery date to the first user.
- Labor costs, except as stated under "Caterpillar Responsibilities," including costs beyond those required to disconnect the product from and reconnect the product to its attached equipment, mounting, and support systems.
- Travel or transporting costs, except as stated under "Caterpillar Responsibilities."
- Premium or overtime labor costs.
- Parts shipping charges in excess of those that are usual and customary.
- Local taxes, if applicable.
- Costs to investigate complaints, unless the problem is caused by a defect in Caterpillar material or workmanship.
- Giving timely notice of a warrantable failure and promptly making the product available for repair.
- Performance of the required maintenance (including use of proper fuel, oil, lubricants, and coolant) and items replaced due to normal wear and tear.
- Allowing Caterpillar access to all electronically stored data.

Limitations

Caterpillar is not responsible for:

- Failures resulting from any use or installation that Caterpillar judges improper.
- Failures resulting from attachments, accessory items, and parts not sold or approved by Caterpillar.
- Failures resulting from abuse, neglect, and/or improper repair.
- Failures resulting from user's delay in making the product available after being notified of a potential product problem.
- Failures resulting from unauthorized repairs or adjustments, and unauthorized fuel setting changes.
- Damage to parts, fixtures, housings, attachments, and accessory items that are not part of the engine, Cat Selective Catalytic Reduction System or electric power generation product (including any products of other manufacturers packaged and sold by Caterpillar).
- Repair of components sold by Caterpillar that is warranted directly to the user by their respective manufacturer. Depending on type of application, certain exclusions may apply. Consult your Cat dealer for more information.

(Continued on reverse side…)

This warranty covers every major component of the products. Claims under this warranty should be submitted to a place of business of a Cat dealer or other source approved by Caterpillar. For further information concerning either the location to submit claims or Caterpillar as the issuer of this warranty, write Caterpillar Inc., 100 N. E. Adams St., Peoria, IL USA 61629.

Caterpillar's obligations under this Limited Warranty are subject to, and shall not apply in contravention of, the laws, rules, regulations, directives, ordinances, orders, or statutes of the United States, or of any other applicable jurisdiction, without recourse or liability with respect to Caterpillar.

A) For products operating outside of Australia, Fiji, Nauru, New Caledonia, New Zealand, Papua New Guinea, the Solomon Islands and Tahiti, the following is applicable:

NEITHER THE FOREGOING EXPRESS WARRANTY NOR ANY OTHER WARRANTY BY CATERPILLAR, EXPRESS OR IMPLIED, IS APPLICABLE TO ANY ITEM CATERPILLAR SELLS THAT IS WARRANTED DIRECTLY TO THE USER BY ITS MANUFACTURER.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT CATERPILLAR EMISSION-RELATED COMPONENTS WARRANTIES FOR NEW ENGINES, WHERE APPLICABLE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISION OF MATERIAL AND SERVICES, AS SPECIFIED HEREIN.

CATERPILLAR IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

CATERPILLAR EXCLUDES ALL LIABILITY FOR OR ARISING FROM ANY NEGLIGENCE ON ITS PART OR ON THE PART OF ANY OF ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN RESPECT OF THE MANUFACTURE OR SUPPLY OF GOODS OR THE PROVISION OF SERVICES RELATING TO THE GOODS.

IF OTHERWISE APPLICABLE, THE VIENNA CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS IS EXCLUDED IN ITS ENTIRETY.

For personal or family use engines or electric power generation products, operating in the USA, its territories and possessions, some states do not allow limitations on how long an implied warranty may last nor allow the exclusion or limitation of incidental or consequential damages. Therefore, the previously expressed exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary by jurisdiction. To find the location of the nearest Cat dealer or other authorized repair facility, call (800) 447-4986. If you have questions concerning this warranty or its applications, call or write:

In USA and Canada: Caterpillar Inc., Engine Division, P. O. Box 610, Mossville, IL 61552-0610, Attention: Customer Service Manager, Telephone (800) 447-4986. Outside the USA and Canada: Contact your Cat dealer.

B) For products operating in Australia, Fiji, Nauru, New Caledonia, New Zealand, Papua New Guinea, the Solomon Islands and Tahiti, the following is applicable:

T**HIS WARRANTY IS IN ADDITION TO WARRANTIES AND CONDITIONS IMPLIED BY STATUTE AND OTHER STATUTORY RIGHTS AND OBLIGATIONS THAT BY ANY APPLICABLE LAW CANNOT BE EXCLUDED, RESTRICTED OR MODIFIED ("MANDATORY RIGHTS"). ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED (BY STATUTE OR OTHERWISE), ARE EXCLUDED. WITHOUT LIMITING THE FOREGOING PROVISIONS OF THIS PARAGRAPH, WHERE A PRODUCT IS SUPPLIED FOR BUSINESS PURPOSES, THE CONSUMER GUARANTEES UNDER THE CONSUMER GUARANTEES ACT 1993 (NZ) WILL NOT APPLY.**

NEITHER THIS WARRANTY NOR ANY OTHER CONDITION OR WARRANTY BY CATERPILLAR, EXPRESS OR IMPLIED (SUBJECT ONLY TO THE MANDATORY RIGHTS), IS APPLICABLE TO ANY ITEM CATERPILLAR SELLS THAT IS WARRANTED DIRECTLY TO THE USER BY ITS MANUFACTURER.

IF THE MANDATORY RIGHTS MAKE CATERPILLAR LIABLE IN CONNECTION WITH SERVICES OR GOODS, THEN TO THE EXTENT PERMITTED UNDER THE MANDATORY RIGHTS, THAT LIABILITY SHALL BE LIMITED AT CATERPILLAR'S OPTION TO (a) IN THE CASE OF SERVICES, THE SUPPLY OF THE SERVICES AGAIN OR THE PAYMENT OF THE COST OF HAVING THE SERVICES SUPPLIED AGAIN AND (b) IN THE CASE OF GOODS, THE REPAIR OR REPLACEMENT OF THE GOODS, THE SUPPLY OF EQUIVALENT GOODS, THE PAYMENT OF THE COST OF SUCH REPAIR OR REPLACEMENT OR THE ACQUISITION OF EQUIVALENT GOODS.

CATERPILLAR EXCLUDES ALL LIABILITY FOR OR ARISING FROM ANY NEGLIGENCE ON ITS PART OR ON THE PART OF ANY OF ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN RESPECT OF THE MANUFACTURE OR SUPPLY OF GOODS OR THE PROVISION OF SERVICES RELATING TO THE GOODS.

CATERPILLAR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES UNLESS IMPOSED UNDER MANDATORY RIGHTS.

IF OTHERWISE APPLICABLE, THE VIENNA CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS IS EXCLUDED IN ITS ENTIRETY.

C) For products supplied in Australia:

IF THE PRODUCTS TO WHICH THIS WARRANTY APPLIES ARE:

- **I. PRODUCTS OF A KIND ORDINARILY ACQUIRED FOR PERSONAL, DOMESTIC OR HOUSEHOLD USE OR CONSUMPTION; OR**
- **II. PRODUCTS THAT COST AUD 40,000 OR LESS,**

WHERE THOSE PRODUCTS WERE NOT ACQUIRED FOR THE PURPOSE OF RE-SUPPLY OR FOR THE PURPOSE OF USING THEM UP OR TRANSFORMING THEM IN THE COURSE OF PRODUCTION OR MANUFACTURE OR IN THE COURSE OF REPAIRING OTHER GOODS OR FIXTURES, THEN THIS SECTION C APPLIES.

THE FOLLOWING MANDATORY TEXT IS INCLUDED PURSUANT TO THE AUSTRALIAN CONSUMER LAW AND INCLUDES REFERENCES TO RIGHTS THE USER MAY HAVE AGAINST THE DIRECT SUPPLIER OF THE PRODUCTS: OUR GOODS COME WITH GUARANTEES THAT CANNOT BE EXCLUDED UNDER THE AUSTRALIAN CONSUMER LAW. YOU ARE ENTITLED TO A REPLACEMENT OR REFUND FOR A MAJOR FAILURE AND COMPENSATION FOR ANY OTHER REASONABLY FORESEEABLE LOSS OR DAMAGE. YOU ARE ALSO ENTITLED TO HAVE THE GOODS REPAIRED OR REPLACED IF THE GOODS FAIL TO BE OF ACCEPTABLE QUALITY AND THE FAILURE DOES NOT AMOUNT TO A MAJOR FAILURE. THE INCLUSION OF THIS TEXT DOES NOT CONSTITUTE ANY REPRESENTATION OR ACCEPTANCE BY CATERPILLAR OF LIABILITY TO THE USER OR ANY OTHER PERSON IN ADDITION TO THAT WHICH CATERPILLAR MAY HAVE UNDER THE AUSTRALIAN CONSUMER LAW.

TO THE EXTENT THE PRODUCTS FALL WITHIN THIS SECTION C BUT ARE NOT OF A KIND ORDINARILY ACQUIRED FOR PERSONAL, DOMESTIC OR HOUSEHOLD USE OR CONSUMPTION, CATERPILLAR LIMITS ITS LIABILITY TO THE EXTENT IT IS PERMITTED TO DO SO UNDER THE AUSTRALIAN CONSUMER LAW TO, AT ITS OPTION, THE REPAIR OR REPLACEMENT OF THE PRODUCTS, THE SUPPLY OF EQUIVALENT PRODUCTS, OR THE PAYMENT OF THE COST OF SUCH REPAIR OR REPLACEMENT OR THE ACQUISITION OF EQUIVALENT PRODUCTS.

THE WARRANTY SET OUT IN THIS DOCUMENT IS GIVEN BY CATERPILLAR INC. OR ANY OF ITS SUBSIDIARIES, 100 N. E. ADAMS ST, PEORIA, IL USA 61629, TELEPHONE 1 309 675 1000, THE USER IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH MAKING A CLAIM UNDER THE WARRANTY SET OUT IN THIS DOCUMENT, EXCEPT AS EXPRESSLY STATED OTHERWISE IN THIS DOCUMENT, AND THE USER IS REFERRED TO THE BALANCE OF THE DOCUMENT TERMS CONCERNING CLAIM PROCEDURES, CATERPILLAR RESPONSIBILITIES AND USER RESPONSIBILITIES.

TO THE EXTENT PERMISSIBLE BY LAW, THE TERMS SET OUT IN THE REMAINDER OF THIS WARRANTY DOCUMENT (INCLUDING SECTION B) CONTINUE TO APPLY TO PRODUCTS TO WHICH THIS SECTION C APPLIES.