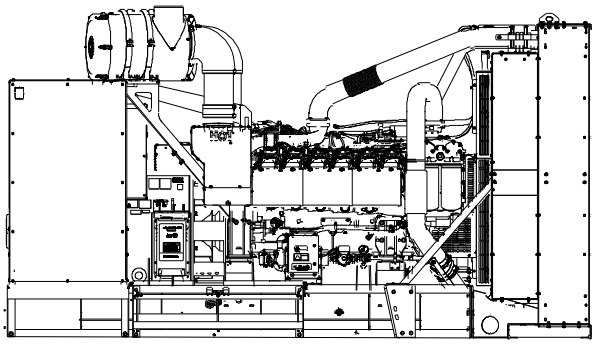
Industrial Diesel Generator Set - KD900

Tier 2 EPA-Certified for Stationary Emergency Applications



KDxxxx designates a generator set with a Tier 2 EPA-Certified engine.
KDxxxx-F designates a 60 Hz generator set with a fuel optimized engine.

Ratings Range

		60 Hz
Standby:	**kW**	830-900
	kVA	1038-1125
Prime:	**kW**	750-810
	kVA	938-1012

Standard Features

- Rehlko provides one-source responsibility for the generating system and accessories.
- Approved for use with certified renewable Hydrotreated Vegetable Oil (HVO)/Renewable Diesel (RD) fuels compliant with EN15940/ASTM D975.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A standard three-year unlimited-hour limited warranty for standby applications in the U.S. And Canada. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications.
- Other features:
  - Rehlko designed controllers for one-source system integration and remote communication. See Controllers on page 4.
  - The low coolant level shutdown prevents overheating (standard on radiator models only).

Conscious Care™ Qualified

- Reduce operating costs, fuel consumption, and greenhouse gas emissions with Conscious Care™ maintenance program.

General Specifications

Orderable Generator Model Number	GMKD900
Manufacturer	Rehlko
Engine: model	KD27V12
Alternator Choices	KH03450TO4D KH04070TO4D KH04830TO4D
Performance Class	Per ISO 8528-5
One Step Load Acceptance	100%
Voltage	Wye or 600 V
Controller	APM603, APM804
Fuel Tank Capacity, L (gal.)	3475-19381 (918-5120)
Fuel Consumption, L/hr (gal./hr) 100% at Standby	245 (64.7)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	226 (59.8)
Emission Level Compliance (KDxxxx)	Tier 2
Open Unit Noise Level @ 7 m dB(A) at Rated Load	96
Data Center Continuous (DCC) Rating (Refer to TIB-101 for definitions)	Same as the Standby Rating below

Generator Set Ratings

				150°C Rise Standby Rating		130°C Rise Prime Rating		125°C Rise Prime Rating		105°C Rise Prime Rating	
Alternator	**Voltage**	**Ph**	**Hz**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**
KH03450TO4D	120/208	3	60	855/1069	2968	830/1038	2882	810/1012	2810	—	—
	127/220	3	60	890/1112	2919	870/1088	2856	810/1012	2656	—	—
	139/240	3	60	900/1125	2707	900/1125	2707	810/1012	2435	810/1012	2435
	240/416	3	60	855/1069	1484	830/1038	1441	810/1012	1405	750/938	1302
	254/440	3	60	890/1112	1460	865/1081	1419	810/1012	1328	775/969	1272
	277/480	3	60	900/1125	1354	900/1125	1354	810/1012	1218	810/1012	1218

RATINGS: All three-phase units are rated at 0.8 power factor. *Standby Ratings:* The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. *Prime Power Ratings:* At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

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Industrial Diesel Generator Set - KD900

Tier 2 EPA-Certified for Stationary Emergency Applications

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating kW/kVA	150°C Rise Standby Rating Amps	130°C Rise Standby Rating kW/kVA	130°C Rise Standby Rating Amps	125°C Rise Prime Rating kW/kVA	125°C Rise Prime Rating Amps	105°C Rise Prime Rating kW/kVA	105°C Rise Prime Rating Amps
KH04070TO4D	120/208	3	60	900/1125	3123	900/1125	3123	810/1012	2810	810/1012	2810
	127/220	3	60	900/1125	2953	900/1125	2953	810/1012	2656	810/1012	2656
	139/240	3	60	900/1125	2707	900/1125	2707	810/1012	2435	—	—
	220/380	3	60	900/1125	1710	900/1125	1710	810/1012	1538	810/1012	1538
	230/400	3	60	900/1125	1624	900/1125	1624	810/1012	1461	810/1012	1461
	240/416	3	60	900/1125	1562	900/1125	1562	810/1012	1405	810/1012	1405
	254/440	3	60	900/1125	1477	900/1125	1477	810/1012	1328	810/1012	1328
	277/480	3	60	900/1125	1354	900/1125	1354	810/1012	1218	810/1012	1218
	347/600	3	60	900/1125	1083	900/1125	1083	810/1012	974	810/1012	974
KH04830TO4D	230/400	3	60	900/1125	1624	900/1125	1624	810/1012	1461	810/1012	1461
	240/416	3	60	900/1125	1562	900/1125	1562	810/1012	1405	810/1012	1405
	254/440	3	60	900/1125	1477	900/1125	1477	810/1012	1328	810/1012	1328
	277/480	3	60	900/1125	1354	900/1125	1354	810/1012	1218	810/1012	1218

Engine Specifications	60 Hz
Engine: model	KD27V12
Engine: type	4-Cycle, Turbocharged, Charge Air Cooled
Cylinder arrangement	12-V
Displacement, L (cu. in.)	27 (1648)
Bore and stroke, mm (in.)	135 x 157 (5.31 x 6.18)
Compression ratio	15.0:1
Piston speed, m/min. (ft./min.)	565 (1854)
Main bearings: quantity, type	7, Precision Half Shells
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	1019 (1367)
Cylinder head material	Cast Iron
Crankshaft material	Steel
Valve (exhaust) material	Steel
Governor: type, make/model	KODEC Electronic Control
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Lubricating System	60 Hz
Type	Full Pressure
Oil pan capacity dipstick mark max., L (qt.) §	79 (83.5)
Oil pan capacity, initial filling, L (qt.) §	101 (106.7)
Oil filter: quantity, type §	2, Cartridge
Oil cooler	Water-Cooled

§ Rehlko recommends the use of Rehlko Genuine oil and filters.

Fuel System	60 Hz
Fuel supply line, min. ID, mm (in.)	14 (0.55)
Fuel return line, min. ID, mm (in.)	14 (0.55)
Max. fuel flow, Lph (gph)	350 (93)
Min./max. fuel pressure at engine supply connection, kPa (in. Hg)	-30/30 (-8.8/8.8)
Max. return line restriction, kPa (in. Hg)	30 (8.8)
Fuel filter: quantity, type	1, Primary Engine Filter 1, Fuel/Water Separator
Recommended fuel	#2 Diesel ULSD/HVO/RD

Fuel Consumption**	60 Hz
Diesel, Lph (gph) at % load	**Standby Rating**
100%	245 (64.7)
75%	192 (50.8)
50%	135 (35.7)
25%	76 (20.1)
Diesel, Lph (gph) at % load	**Prime Rating**
100%	226 (59.8)
75%	175 (46.2)
50%	124 (32.7)
25%	73 (19.2)

** Volumetric Fuel consumption is up to 4% higher when using HVO/RD than #2 ULSD.

Radiator System	60 Hz	
Ambient temperature, °C (°F)*	50 (122)	40 (104)
Radiator system capacity, including engine, L (gal.)	123 (32.4)	113 (29.5)
Engine jacket water capacity, L (gal.)	55 (14.4)	
Engine jacket water flow, Lpm (gpm)	1015 (268)	
Charge cooler air inlet temperature at 25°C (77°F) ambient, °C (°F)	211 (412)	
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	367 (20890)	
Heat rejected to charge air cooler at rated kW, dry exhaust, kW (Btu/min.)	256 (14571)	
Turbocharger boost (abs) bar (psi)	3.4 (49)	
Water pump type	Vane Wheel	
Fan diameter, including blades, mm (in.)	1350 (53.1)	
Fan, kWm (HP)	48 (64.3)	
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H_2O)	0.125 (0.5)	

Remote Radiator System†	60 Hz
Exhaust manifold type	Dry
Connection sizes:	
Water inlet/outlet, mm (in.)	85 (3.35)
Charge air cooler inlet/outlet (pipe dia. of flange), mm (in.)	127 (5)
Static head allowable above engine, kPa (ft. H_2O)	70 (23.5)

† Contact your local distributor for cooling system options and specifications based on your specific requirements.

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Exhaust System	60 Hz
Exhaust flow at rated kW, m^3/min. (cfm)	189.4 (6689)
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)	494 (921)
Maximum allowable back pressure, kPa (in. Hg)	8.5 (2.5)
Exh. outlet size at eng. hookup, mm (in.)	See ADV drawing

Electrical System	60 Hz
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	24
Ampere rating	140
Starter motor qty. at starter motor power rating, rated voltage (DC)	Standard: 1 @ 7.8 kW, 24; Redundant (optional): 2 @ 7.8 kW, 24
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating each, type (with standard starter)	2, 1110, AGM
Quantity, CCA rating each, type (with optional redundant starters)	4, 1110, AGM
Battery voltage (DC)	12

Air Requirements	60 Hz
Radiator-cooled cooling air, m^3/min. (scfm)‡	1212 (42801)
High ambient radiator- cooled cooling air, m^3/min (scfm)‡	1350 (47700)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise, m^3/min. (scfm)‡	611.2 (21584)
Combustion air, m^3/min. (cfm)	67.8 (2396)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	124 (7058)
Alternator, kW (Btu/min.)	47 (2675)

‡ Air density = 1.20 kg/m^3 (0.075 lbm/ft^3)

Alternator Specifications		60 Hz
Type		4-Pole, Rotating-Field
Exciter type		Brushless, Permanent-Magnet Pilot Exciter
Voltage regulator		Solid-State, Volts/Hz
Insulation:		NEMA MG1, UL 1446, Vacuum Pressure Impregnated (VPI)
Material		Class H, Synthetic, Nonhygroscopic
Temperature rise		130°C, 150°C Standby
Bearing: quantity, type		1, Sealed
Coupling type		Flexible Disc
Amortisseur windings		Full
Alternator winding type		Random Wound
Rotor balancing		125%
Voltage regulation, no-load to full-load		±0.25%
One-step load acceptance		100% of Rating
Unbalanced load capability		100% of Rated Standby Current
Peak motor starting kVA:		(35% dip for voltages below)
480 V	KH03450TO4D	3136
480 V	KH04070TO4D	3774
480 V	KH04830TO4D	4193

Alternator Standard Features

- The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability.
- All models are brushless, rotating-field alternators.
- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- Brushless alternator with brushless pilot exciter for excellent load response.

NOTE:
See TIB-102 Alternator Data Sheets for alternator application data and ratings, efficiency curves, voltage dip with motor starting curves, and short circuit decrement curves.

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Controllers



APM804 Controller
Provides advanced controls, system monitoring, system diagnostics and optimizes generator performance with intelligent load sharing and seamless synchronization.

- **Intuitive User Interface** – High-resolution 12-inch color display with easy-to-navigate menus for quick setup and monitoring
- **Comprehensive Protection** – Includes voltage, frequency, and engine safeguards to ensure reliable operation
- **Flexible Connectivity** – The controller supports Modbus® RTU/TCP, BACnet® & SNMP protocols. Built-in Ethernet, RS-485, analog and digital I/O for smooth integration with modern systems
- **Scalable Design** – Supports paralleling multiple gensets, paralleling with utility and complex applications, from standby to prime power
- **Remote Monitoring Ready** – Compatible with cloud-based and local monitoring solutions for real-time insights using Modbus

Modbus® is a registered trademark of Schneider Electric.
BACnet® is a registered trademark of ASHRAE.



APM603 Controller
Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- 7-inch graphic display with touch screen and menu control provides easy local data access
- Measurements are selectable in metric or English units
- Paralleling capability to control up to 8 generators on an isolated bus with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
  Note:
  Parallel with other APM603 controllers only
- Generator management to turn paralleled generators off and on as required by load demand
- Load management to connect and disconnect loads as required
- Controller supports Modbus® RTU, Modbus® TCP, SNMP and BACnet®
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- UL-listed overcurrent protective device
- NFPA 110 Level 1 capability

Refer to G6-162 for additional controller features and accessories.

BACnet® is a registered trademark of ASHRAE.

Codes and Standards

- Engine-generator set is designed and manufactured in facilities certified to ISO 9001.
- Generator set meets NEMA MG1, BS5000, ISO, DIN EN, and IEC standards, NFPA 110.
- Engine generator set is tested to ISO 8528-5 for transient response.
- The generator set and its components are prototype-tested, factory-built, and production-tested.

Third-Party Compliance

- Tier 2 EPA-Certified for Stationary Emergency Applications

Available Approvals and Listings

- ❑ California OSHPD Pre-Approval
- ❑ cULus (UL 2200 and CSA)
- ❑ IBC Seismic Certification
- ❑ Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)

Warranty Information

- A standard three-year unlimited-hour limited warranty for standby applications in the U.S. And Canada. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications.

Available Warranties for Standby Applications

- ❑ 5-Year Basic Limited Warranty
- ❑ 5-Year Comprehensive Limited Warranty
- ❑ 10-Year Major Components Limited Warranty

Standard Features

- Closed Crankcase Ventilation (CCV) Filters
- Customer Connection
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Oil Drain and Coolant Drain Extension
- Operation and Installation Literature
- Battery Rack and Cables

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Industrial Diesel Generator Set - KD900

Tier 2 EPA-Certified for Stationary Emergency Applications

Available Options

Circuit Breakers

Type

- ❑ Magnetic Trip
- ❑ Thermal Magnetic Trip
- ❑ Electronic Trip (LI)
- ❑ Electronic Trip with Short Time (LSI)

Rating

- ❑ 80%
- ❑ 100%

Operation

- ❑ Manual
- ❑ Electrically Operated (for paralleling)

Circuit Breaker Mounting

- ❑ Generator Mounted
- ❑ Remote Mounted
- ❑ Bus Bar (for remote mounted breakers)

Enclosed Remote Mounted Circuit Breakers

- ❑ NEMA 1 (15-5000 A)
- ❑ NEMA 3R (15-1200 A)

Engine Type

- ❑ KDxxxx Tier 2 EPA-Certified Engine
- ❑ KDxxxx-F Fuel Optimized Engine

Approvals and Listings

- ❑ California OSHPD Pre-Approval
- ❑ cULus (UL 2200 and CSA)
- ❑ IBC Seismic Certification
- ❑ Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)
- ❑ Hurricane Rated Enclosure

Enclosed Unit

- ❑ Sound Level 1 Enclosure/Fuel Tank Package
- ❑ Sound Level 2 Enclosure/Fuel Tank Package

Open Unit

- ❑ Exhaust Silencer, Critical (kits: PA-354880 qty. 2 or PA-354898 qty. 1)
- ❑ Exhaust Silencer, Hospital (kits: PA-354905 qty. 2 or PA-354912 qty. 1)
- ❑ Flexible Exhaust Connector, Stainless Steel

Controller

- ❑ Input/Output, Digital
- ❑ Load Shed (APM804 only)
- ❑ Manual Key Switch
- ❑ Remote Emergency Stop Switch
- ❑ Lockable Emergency Stop Switch
- ❑ Remote Serial Annunciator Panel

Cooling System

- ❑ Block Heater; 6000 W, 208 V, (select 1 Ph or 3 Ph) *
- ❑ Block Heater; 6000 W, 240 V, (select 1 Ph or 3 Ph) *
- ❑ Block Heater; 6000 W, 480 V, (select 1 Ph or 3 Ph) *

* Required for ambient temperatures below 10°C (50°F). Block heater kit includes air intake manifold grid heater.

- ❑ Radiator Guard and Duct Flange

Electrical System

- ❑ Battery, AGM (kit with qty. 2)
- ❑ Battery Charger
- ❑ Battery Heater; 80 W, 120 V, 1Ph
- ❑ Generator Heater
- ❑ Redundant Starters

Fuel System

- ❑ Flexible Fuel Lines
- ❑ Restriction Gauge (for fuel/water separator)

Literature

- ❑ General Maintenance
- ❑ NFPA 110
- ❑ Overhaul
- ❑ Production

Miscellaneous

- ❑ Air Cleaner, Heavy Duty (loose)
- ❑ Air Cleaner Restriction Indicator
- ❑ Alternator Air Filter (will reduce generator set rating by 7%)
- ❑ Automatic Oil Replenishment System
- ❑ Engine Fluids (oil and coolant) Added
- ❑ Rated Power Factor Testing

Electrical Package (Requires Enclosure selection)

- ❑ Basic Electrical Package (select 1 Ph or 3 Ph)
- ❑ Wire Battery Charger (1 Ph)
- ❑ Wire Block Heater (select 1 Ph or 3 Ph)
- ❑ Wire Controller Heater (1 Ph)
- ❑ Wire Generator Heater (1 Ph)

Warranty (Standby Applications only)

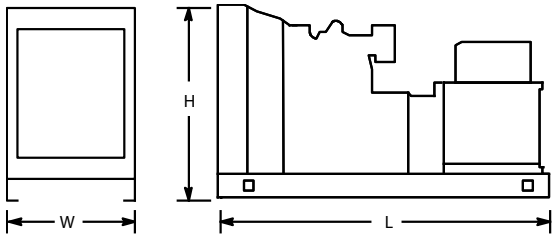
- ❑ 5-Year Basic Limited Warranty
- ❑ 5-Year Comprehensive Limited Warranty
- ❑ 10-Year Major Components Limited Warranty

Other

- ❑
- ❑

Dimensions and Weights

Overall Size, max., L x W x H, mm (in.):	4181 x 1986 x 2200 (164.6 x 78.2 x 86.6)
Weight, radiator model, max. wet, kg (lb.):	7770 (17131)



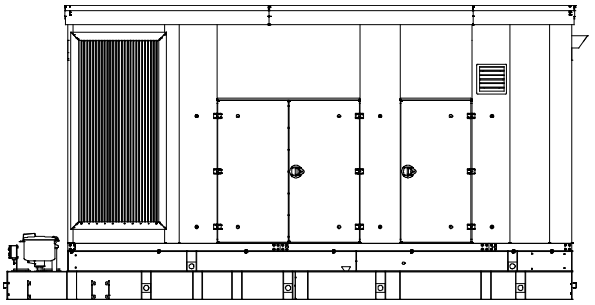
NOTE:
This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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Sound Enclosures and Subbase Fuel Tank

Sound Level 1 Enclosure Standard Features

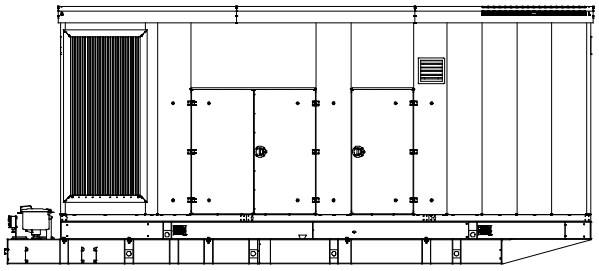
- Lift base or tank-mounted, aluminum construction enclosure with internal-mounted, exhaust silencers.
- Every enclosure has a sloped roof to reduce the buildup of moisture and debris.
- Sound attenuated enclosure that offers noise reduction using acoustic insulation, acoustic-lined air inlets and an acoustic-lined air discharge.
- Fade-, scratch-, and corrosion-resistant Power Armor™ automotive-grade textured finish.
- Acoustic insulation that meets UL 94 HF1 flammability classification.
- Enclosure has large access doors that are hinged and removable which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- Air inlet louvers reduce rain and snow entry.
- High wind bracing, 241 kph (150 mph).



Sound Level 1 Enclosure
(Shown with available spill containment)

Sound Level 2 Enclosure Standard Features

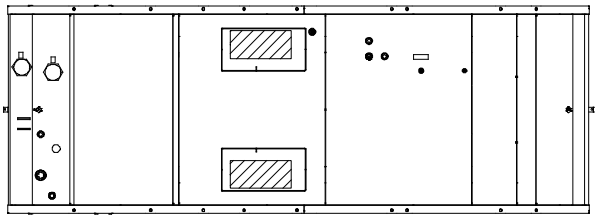
- Includes all of the sound level 1 enclosure features with the addition of up to 51 mm (2 in.) acoustic insulation material, intake sound baffles, vertical air discharge, and secondary silencers.
- Louvered air inlet and vertical outlet hood with 90 degree angles to redirect air and reduce noise.



Sound Level 2 Enclosure
(Shown with available spill containment)

Subbase Fuel Tank Features

- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Both the inner and outer tanks have UL-listed emergency relief vents.
- Flexible fuel lines are provided with subbase fuel tank selection.
- The containment tank's construction protects against fuel leaks or ruptures. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- The above ground secondary containment subbase fuel tank meets UL 142 requirements.
- Features include:
  - Additional fittings for optional accessories (qty. 3
  - Electrical stub-up area open to bottom
  - Emergency inner and outer tank relief vents
  - Fuel fill with lockable cap and 51 mm (2 in.) riser
  - Fuel leak detection switch
  - Fuel level mechanical gauge
  - Fuel level sender
  - Normal vent
  - Removable engine supply and return diptubes



Subbase Fuel Tank (Top View)

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