



## Hydromechanical Engine Shutdown Systems



### FEATURE:

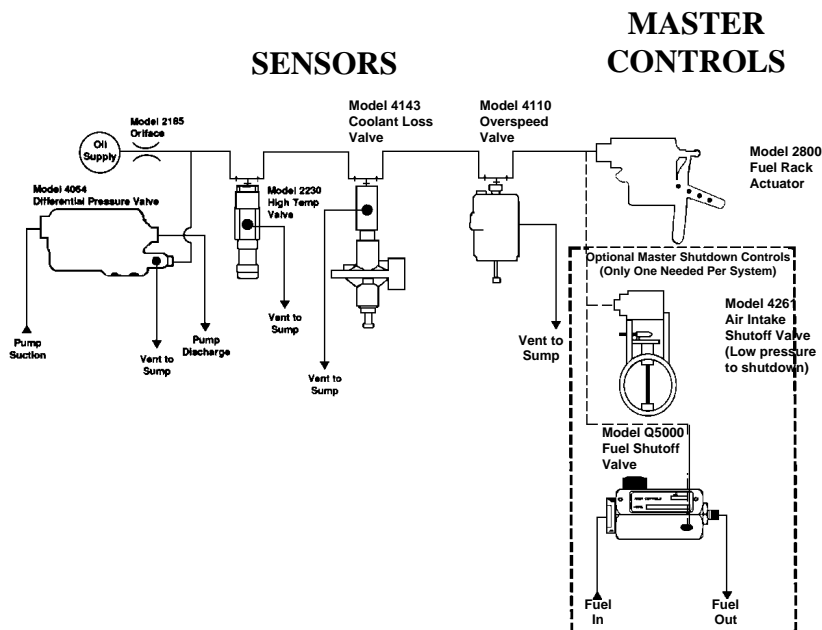
- Lube Oil Operated
- Anodized Aluminum Finish (Gulfproofed)
- Heavy Duty Construction
- Flexibility
- Easy Installation

### BENEFIT:

- *Fail-safe* method of operation
- No electricity required
- Explosion-proof
- Corrosion resistant
- Compatible with marine applications
- Vibration resistant
- No wires to break or corrode
- No special enclosures or housings required
- Compact and rugged construction
- End devices to monitor every condition
- Fuel, intake air, or injection pump shutoff
- Complete engine protection systems available from AMOT
- Uses standard hose and fittings
- Quick and simple, no special tools required

The system is **fail-safe**, because breakage of an oil pressure line, excessive oil leakage, or a plugged orifice will cause engine shutdown.

- Master Shutdowns must be latched in run position to start engine.
- Engine oil pressure arms the Master Shutdown device.
- Sensors vent oil tripping the spring actuated Master Shutdown device.
- Loss of engine oil pressure causes shutdown.



## VENT TO SHUTDOWN PRINCIPLE

In a typical system, engine lubricating oil is fed through an orifice to High Jacket Water Temperature valve 2230, then to Water Pump Differential Pressure valve 4143, then to Overspeed valve 4110. All sensors except the master shutdown device vent oil back to the crankcase when they are tripped.

If, for example, engine water temperature exceeds the trip setting, the 2230 vents the oil between the 2185 orifice and the 2800 Safety Control back to the sump. The function of the orifice is to restrict the lubricating oil that is feeding the safety system so that the venting device will positively drop pressure at the 2800, causing it to shut down the engine.

As many sensors can be used on an engine as needed.

## Q5000 Fuel Shutoff Valve



- Trips on low oil pressure
- Positive fuel shutoff
- Small compact size
- Easy to mount

MASTER SHUTDOWN

## 4054 Trip Indicator



- Pinpoint tripped sensor
- Wide pressure range
- Sensor or panel mounting
- Oil or air actuated

SENSOR

## 4064 Differential Pressure Sensing Valve



- Protects pump
- Shutoff on low differential pressure between pump suction & discharge

SENSOR

## 4261 Air Intake Shutoff Valve



- Trips on low oil pressure
- Quick positive shutoff
- Light weight
- Best method of shutdown for hazardous atmospheres

MASTER SHUTDOWN

## 2800 Fuel Rack Actuator



- Trips on low oil pressure
- Manual stop handle
- Constructed for rugged use
- Immediate shutdown of fuel at fuel rack (no fuel in fuel line)

MASTER SHUTDOWN

## 4143 Coolant Loss Valve



- Detects coolant loss or water pump failure

SENSOR

## 2230 Temperature Valve



- Lube oil or jacket water
- Air temperature
- Field adjustable

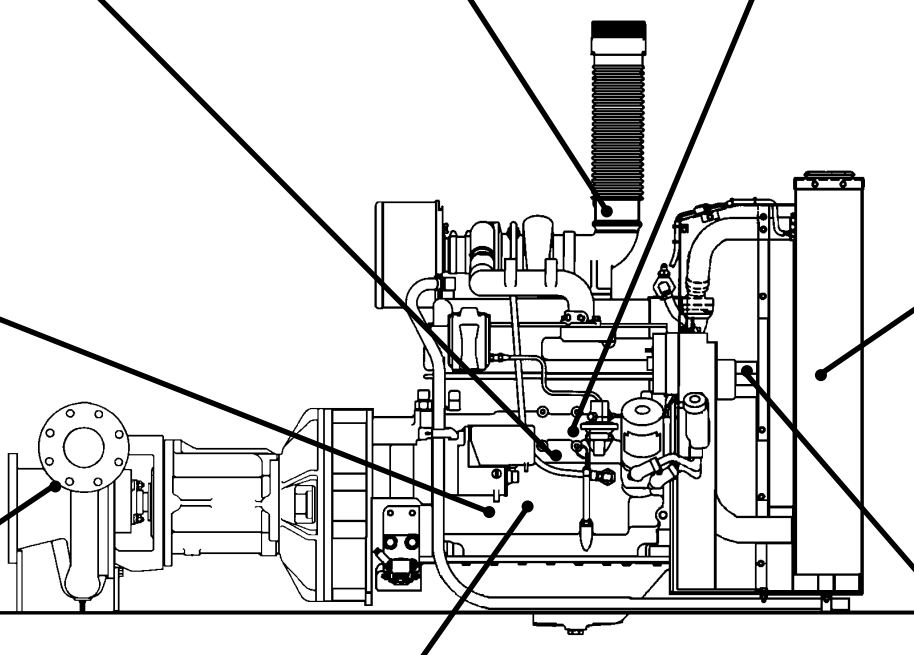
SENSOR

## 4110 Overspeed Valve



- Manual or pneumatic reset
- Rugged construction
- Lifetime ball bearings

SENSOR



# CHOOSE YOUR SYSTEM

To complete your system, identify and insert the appropriate code number for the model number.

## Master Safety Control: (Only one required)

1. **2800D002** - Fuel Rack Actuator Valve;  
Lube Oil Operated

Special setpoints other than 15 psi optional.

2. **Q5000** - Fuel Shutoff Valve; lube oil operated  
**Model No. Q5000-inlet code-outlet code.**

Connections:

Inlet (female)	Inlet Code	Outlet (male)	Outlet Code
12 x 1.5 mm	A	12 x 1.5 mm	A
14 x 2.0 mm	B	14 x 2.0 mm	B
1/4" NPT	C	1/4" NPT	C
14 x 1.5 mm	E	14 x 1.5 mm	E
10 x .9 mm	F	10 x .9 mm	F

3. **4261** - Air Intake Shutoff Valve; Lube Oil Operated  
**Model No. 4261B0\_\_A041.**

Size:

Option (size)	Code
2.8"	2
3.5"	3
5.5"	5
7.0"	7

**NOTE: Model 4261 is used in hazardous areas where hydrocarbon vapors or combustible dusts are present. A diesel engine can runaway and self-destruct on hydrocarbon vapors or combustible dusts even if the engines primary fuel source is taken away. Model 4261 meets MMS CFR 250.80 and 250.100 required on offshore platforms.**

## Sensors: (As many as desired)

1. **2230** - High Temperature Sensor  
**Model No. 2230D120\_\_N**

a. Temperature ranges:

Range	Code
161-180°F	D
181-210°F	E
226-245°F	G

- b. Special extensions - other than 1-3/8" installed depth can be special ordered
- c. Special temperatures - other than those listed under section (a) can be special ordered.
- d. For a SS version of this valve, use Model 4430 valve.

2. **4143** - Coolant Loss Valve  
**Model No. 4143A001**

Setpoint must be specified.

3. **4110** - Overspeed Valve  
**Model No. 4110B2U20F**

Comes with adjustable range from 1201-4200 rpm.

4. **4064** - Differential Pressure Sensing Valve  
**Model No. 4064B\_\_2\_\_**

Pressure ranges:

Increasing	Decreasing	Codes	
5-35 psi	5-35 psi	1	A
25-125 psi	25-125 psi	2	A
90-285 psi	90-285 psi	3	A
20-215 psi	50-250 psi	4	B
50-580 psi	100-650 psi	5	B

b. Viton seals can be special ordered.

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