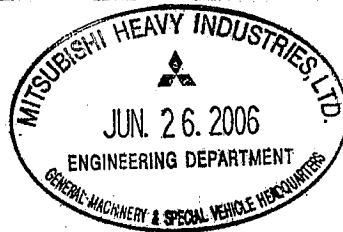


SPECIFICATIONS

MITSUBISHI HIGH SPEED DIESEL ENGINE MODEL MITSUBISHI S3Q2-Y261DP

(For Power Unit)

**FOR REFERENCE
ONLY**



DATE Nov. 21. 2005

MITSUBISHI HEAVY INDUSTRIES, LTD.

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| CHG | DATE | APPROVED | CHECKED | DRAWN |
|-----|-------------|-----------|----------|---------|
| △ | Jun.19.2006 | T. Yamada | | K.Ajiro |
| △ | Feb. 9.2006 | | K. Ajiro | |

1. Principal Particulars of Diesel Engine

General Specification

| | | |
|-------------------------|---|--------------------|
| Standard | All items, unless otherwise specified, are in accordance with JIS and maker's standards | |
| Model | Mitsubishi S3Q2 (Mitsubishi S3Q2-Y261DP, MHI No. 31C00-00030) | |
| Type | 4 cycle water-cooled, vertical overhead valve, cylinder in line, swirl chamber type | |
| Number of cylinders | 3 | |
| Bore × Stroke | 88mm × 103mm | |
| Piston displacement | 1.879 liters | |
| Compression ratio | 22 : 1 | |
| Rotation | Anti-Clockwise rotation as viewed from flywheel side | |
| Firing order | 1-3-2 | |
| Engine weight(Dry) | Approx. 160kg | |
| △ Dimensions(Length) | Approx. 608mm | |
| (Width) | Approx. 492mm | |
| (Height) | Approx. 633mm | |
| Inclination(Continuous) | 15° | |
| (Temporary) | 30° | |
| Fuel | ASTM diesel fuel oil No.2-D (JIS K2204 gas oil specification No.2 or 3) | |
| Lubricating oil | API classification service CD,CF-4 class | |
| Output(Without fan) | Spec. rating | Rating at delivery |
| Max.Torque | 23.2±1.2kW/2300rpm | 22.0±1.1kW/2300rpm |
| Fuel consumption | 99±5Nm/1800rpm | 94±5Nm/1800rpm |
| Low Idle | 260±8% g/kWh | 275±8% g/kWh |
| High Idle | 1200±30rpm | |
| Speed regulation | 2500±25rpm | |
| Rating conditions | Steady state speed regulation at rated speed, within 10% | |
| | ISO 3046, without fan | |
| | Total barometric pressure:0.1MPa | |
| | Air temperature :25°C | |
| | Relative humidity:30% | |
| Oil consumption | Within 2.7g/kW-h | |
| Fuel injection timing | 18°BTDC | |
| Mean effective pressure | 0.64MPa(6.6kgf/cm ²) | |
| Piston speed | 7.9m/s at 2300rpm | |

Fuel system

| | |
|-----------------------|-----------------------------|
| Fuel injection pump | In-Line type |
| Fuel injection nozzle | Throttle type |
| Governor | Mechanical centrifugal type |
| Fuel filter | Filtering paper type |

Lubricating system

| | |
|------------------------|--|
| Lubricating system | Forced lubrication by trochoid gear pump |
| Lubricating oil filter | Filtering paper type, full flow |
| Oil pressure | 0.10~0.39MPa (1~4kgf/cm ²) at duty run 0.05MPa (0.5kgf/cm ²) min. at low idling |
| Oil capacity | 6.4 liters (Oil pan 5.7 liters, high level, Oil filter etc. 0.7 liters) |
| Oil dipstick | Standard dipstick |
| Oil pressure switch | Yes |

Cooling system

| | |
|-----------------------|---|
| Cooling system | Forced circulation of fresh water by centrifugal pump with thermostat |
| Engine water capacity | Approx. 3 liters |
| Cooling fan | Yes; 380mm diameter, suction |
| Water pump pulley | PCD 116mm |
| Pulley ratio | 1.32 (Crankpulley : Water pump pulley = 153 : 116) |
| △ Fan spacer | 35mm thickness |
| Water temp. switch | Yes |
| Thermo. Unit | No |
| Thermostat | Open at 76.5deg.C - full open at 90deg.C |

Electrical system

| | |
|------------------------|-------------------------------|
| Alternator | 12V - 50A |
| Voltage regulator | IC type (Built in alternator) |
| Alternator pulley | PCD 70mm |
| Starting system | Electric starting, |
| Starter motor | 12V-2kW |
| Glow plug | 10.5V,9.7AX3 |
| Engine shut off system | Electric solenoid (ETS) |

Intake and Exhaust system

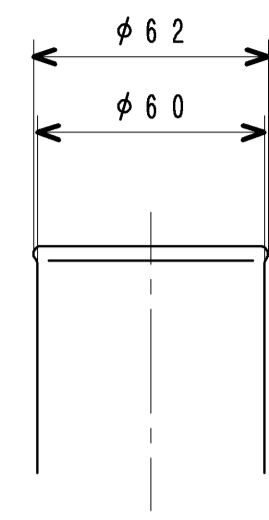
| | |
|---------------------------------|------------------------------------|
| Intake manifold(cover) | Left side way |
| Exhaust manifold | Upper side way |
| Allowable Induction Resistance | Max 1.96kPa{0.2mH ₂ O} |
| Allowable Exhaust Back Pressure | Max 6.67kPa{0.68mH ₂ O} |

<Remarks>

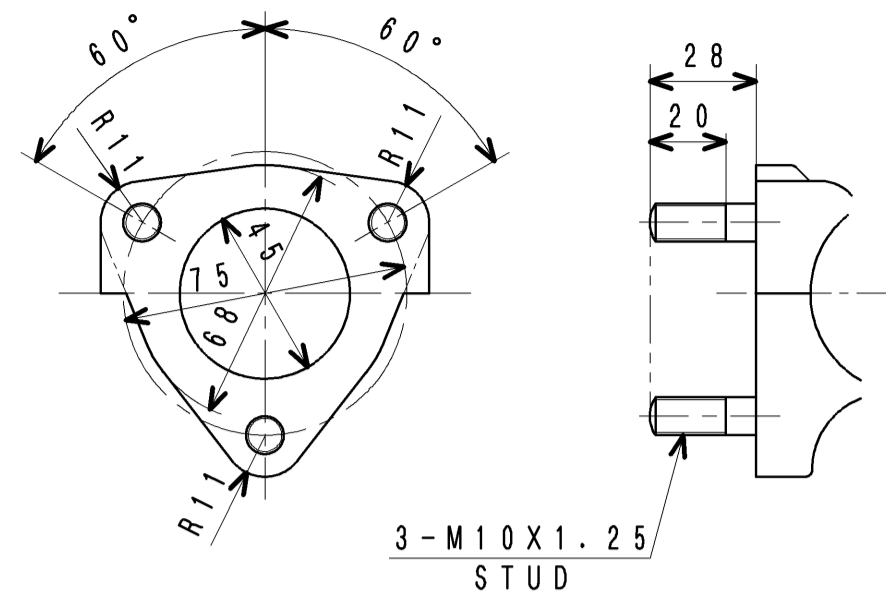
| | |
|------------------|----------------------------|
| Engine color | Black(MHI standard color) |
| Flywheel | With (similar to SAE 7.5") |
| Flywheel housing | With (SAE #4) |

2. Accessories (Loose Supply)

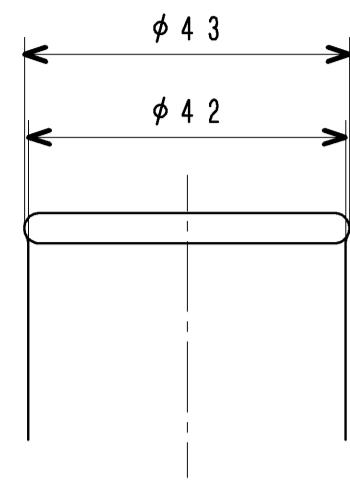
| | Parts Name | Parts No. | Q'ty | Remarks |
|---|---------------------|-------------|------|--------------------|
| 1 | SWITCH,THERMO | MC880-900 | 1 | Attached To Engine |
| 2 | SWITCH,OIL PRESSURE | 31A90-00700 | 1 | |
| 3 | STOP SOLENOID(ETS) | 32A61-09010 | 1 | |



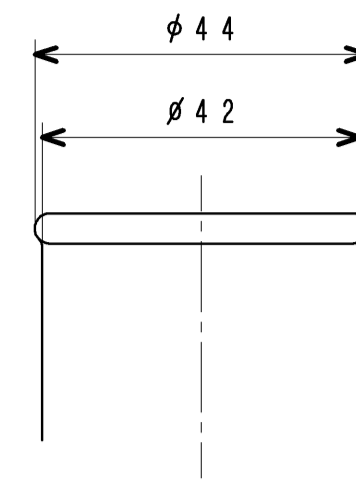
A-DETAIL (1:2)



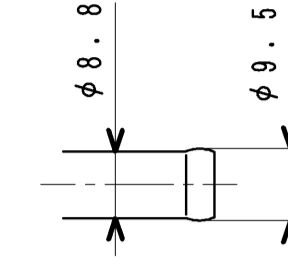
B-DETAIL (1:2)



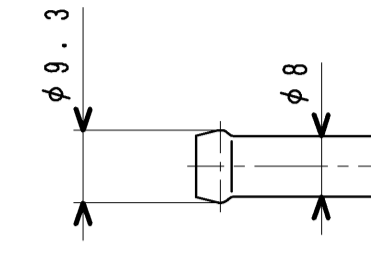
C-DETAIL



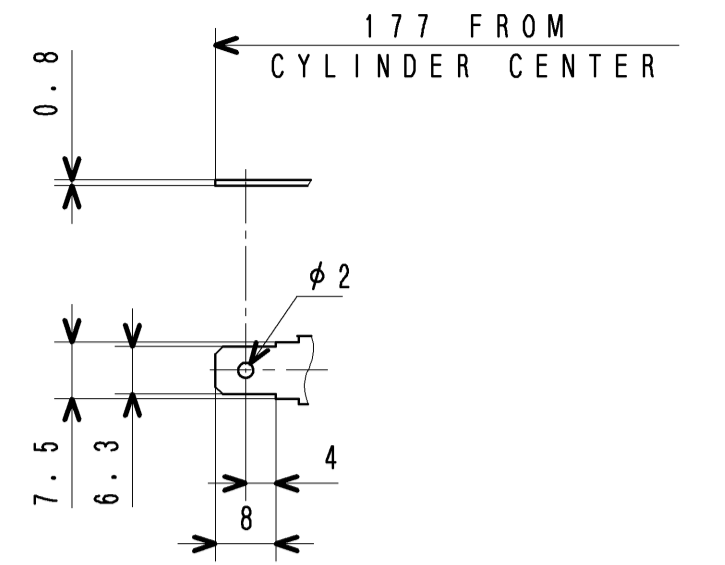
D-DETAIL



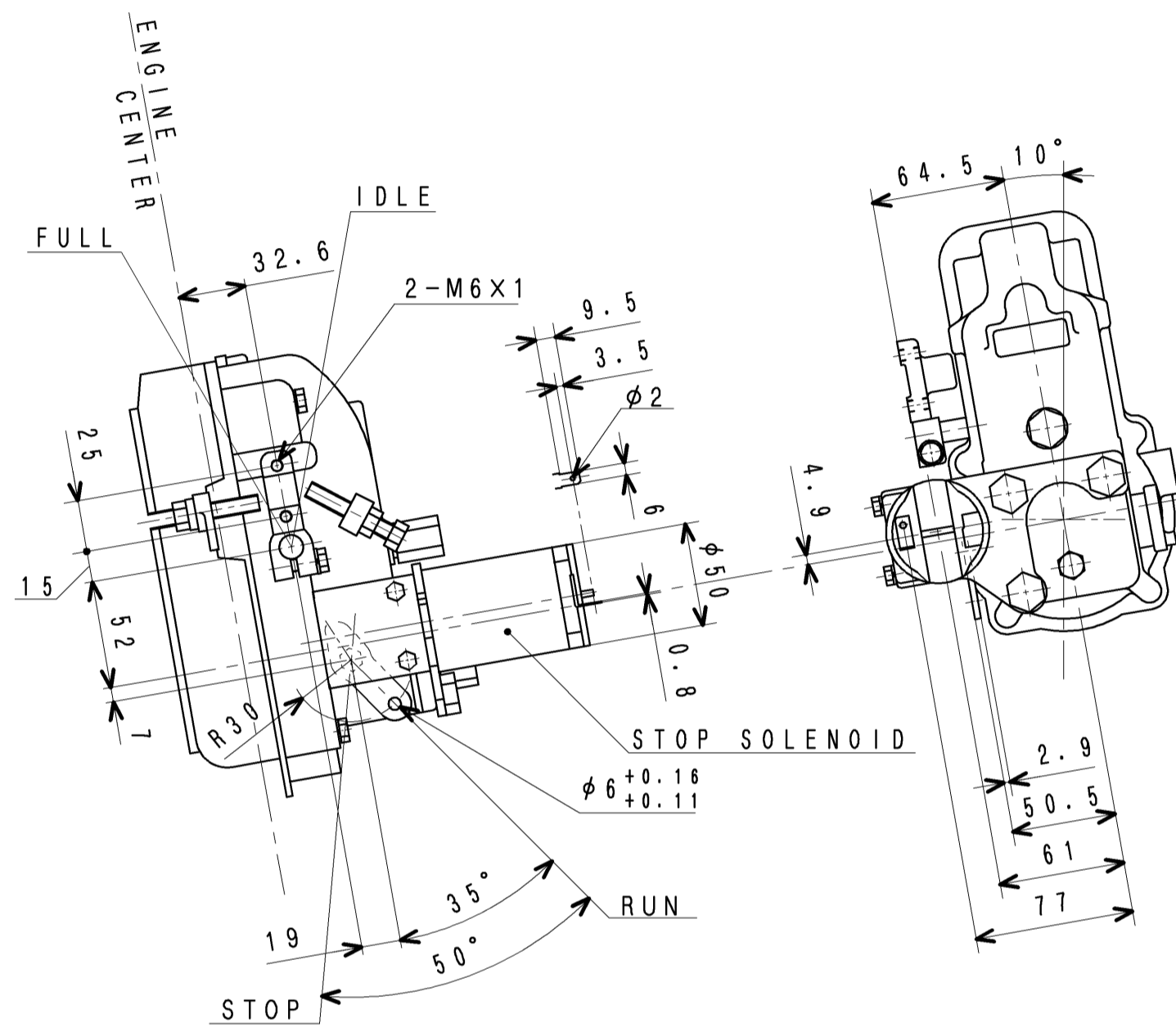
E-DETAIL



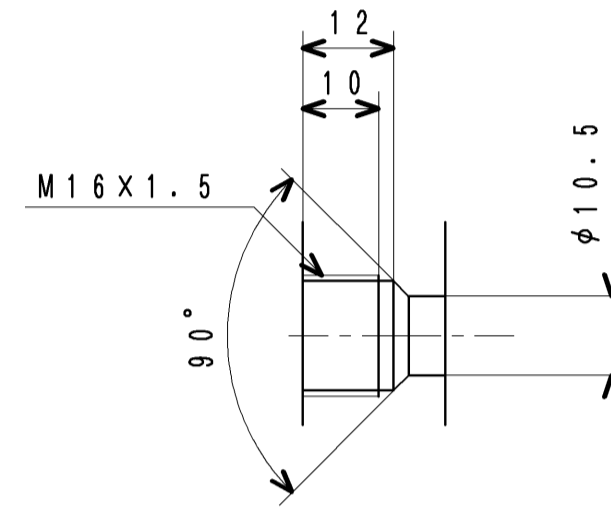
F-DETAIL



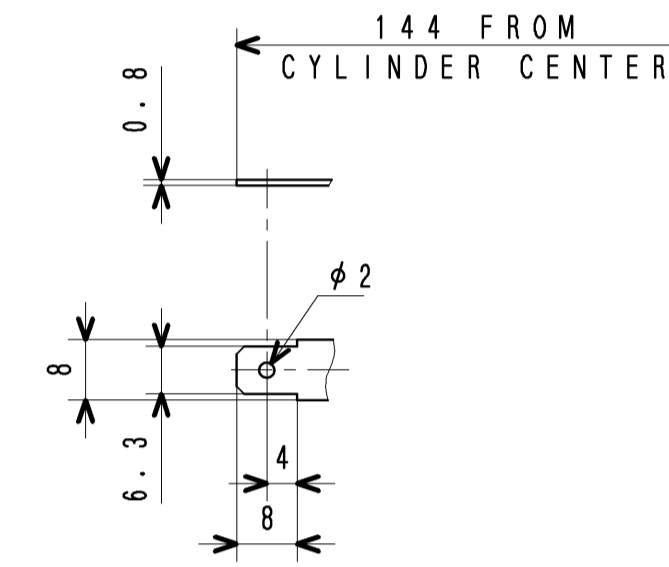
G-DETAIL



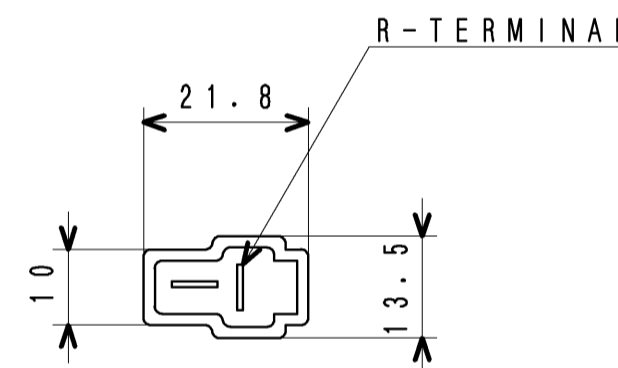
X-VIEW (1:3)
(CONTROL & STOP LEVER)



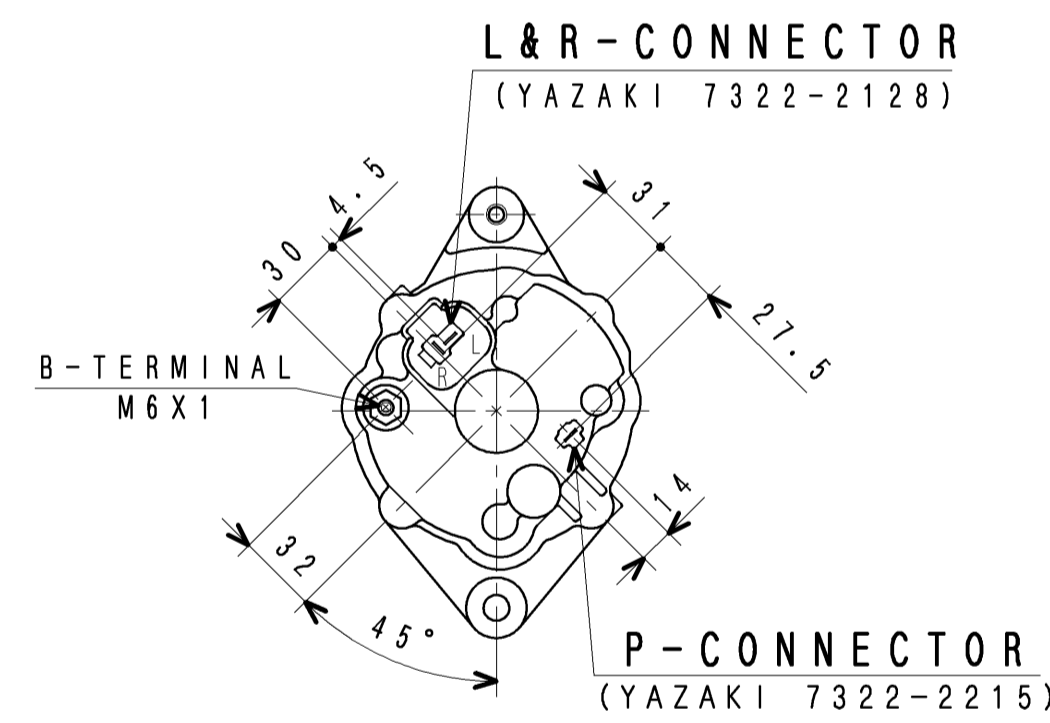
H-DETAIL



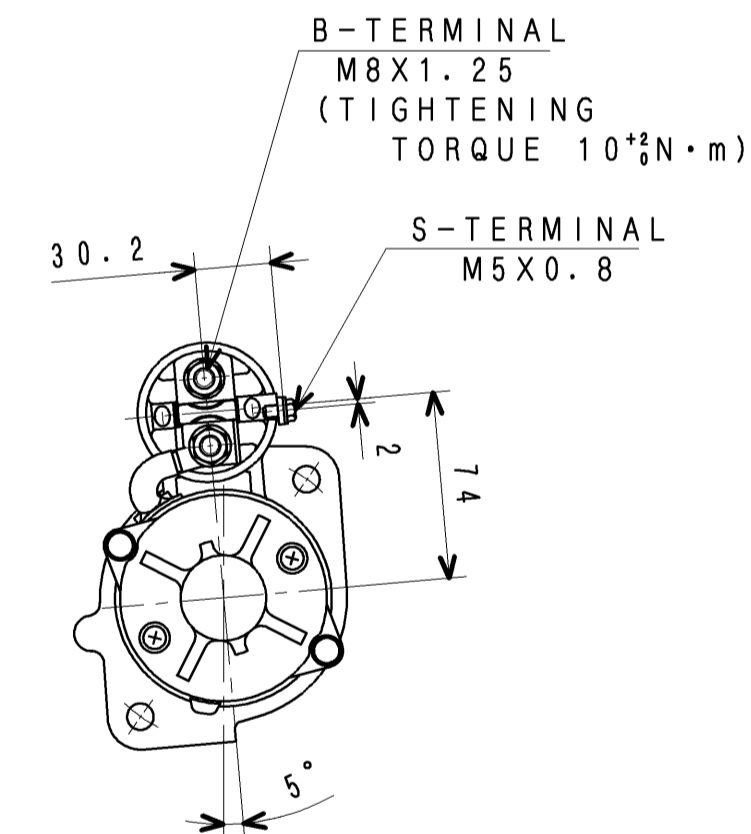
J-DETAIL



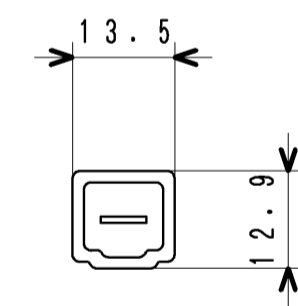
L&R-DETAIL



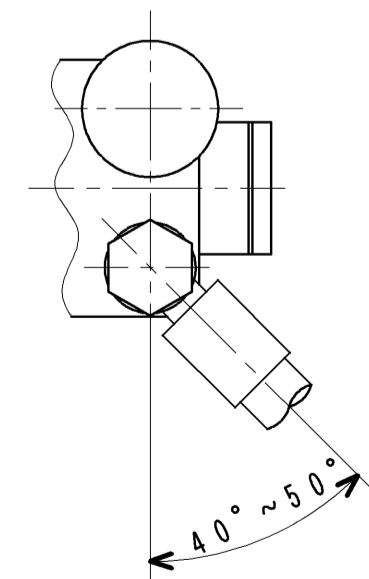
Y-VIEW (1:3)



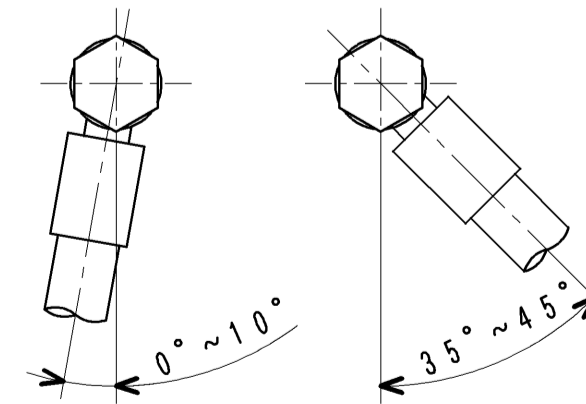
W-VIEW (1:3)



P-DETAIL



U-VIEW (1:2)



V-VIEW (1:2)

| | | | | | | | |
|----------------------|------------|------------|------------|---|-------------|---------|---------|
| 3RD ANGLE PROJECTION | | | | S3Q2-Y261DP ENG ASSY | | | |
| 尺規 SCALE | | | | 三 菱 重 工 業 株 式 有 限 公 司 汎 用 機 ・ 特 車 事 業 本 部 | | | |
| 1:1 | | | | GENERAL MACHINERY & SPECIAL VEHICLE HEADQUARTERS, MITSUBISHI HEAVY INDUSTRIES, LTD. | | | |
| 製 図 (MSH) | 検 査 (M) | 製 図 日 期 | 製 図 者 | 製 図 部 門 | 製 図 番 号 | 製 図 機 器 | 製 図 機 器 |
| 2005.10.11 | 2005.10.11 | 2005.10.11 | R. NAGASE | 汎 用 機 部 | 31C00-00030 | 2 | 2 |
| 認 可 (M) | 検 査 (M) | 製 図 (MSH) | 製 図 日 期 | 製 図 者 | 製 図 部 門 | 製 図 機 器 | 製 図 機 器 |
| T. Yamada | K. AJIRO | 2005.10.11 | 2005.10.11 | R. NAGASE | 汎 用 機 部 | 汎 用 機 部 | 汎 用 機 部 |
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MITSUBISHI DIESEL ENGINE

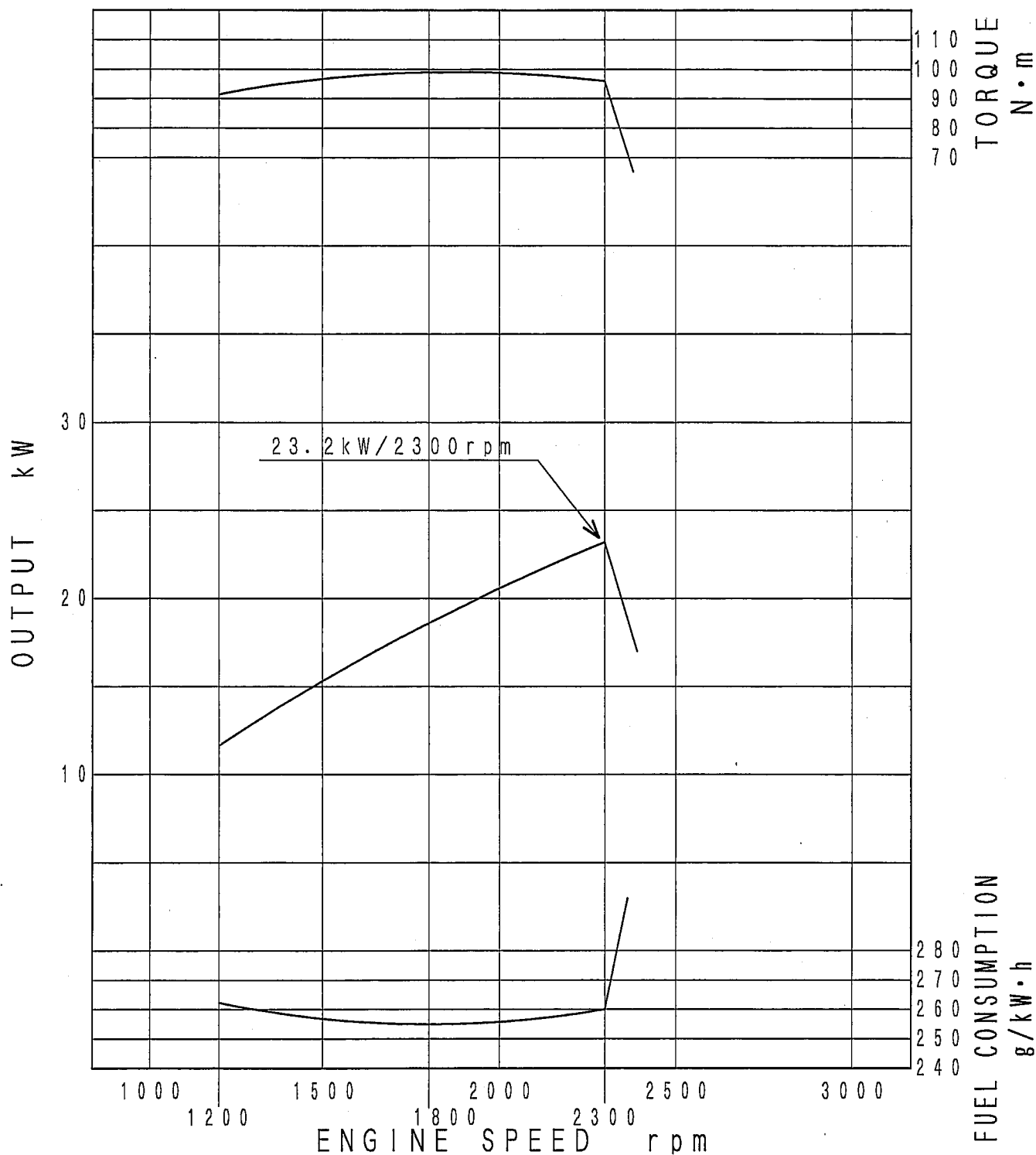
MODEL S3Q2-Y261DP

PERFORMANCE CURVE

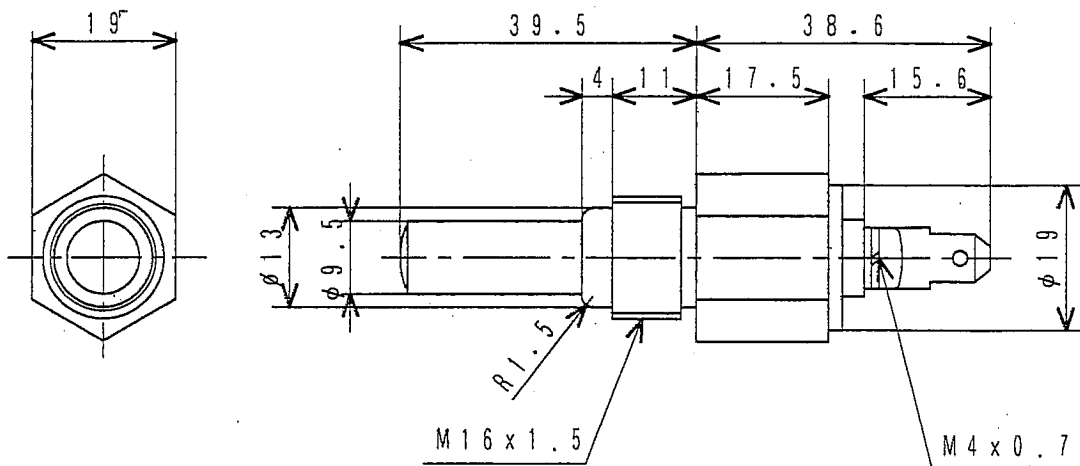
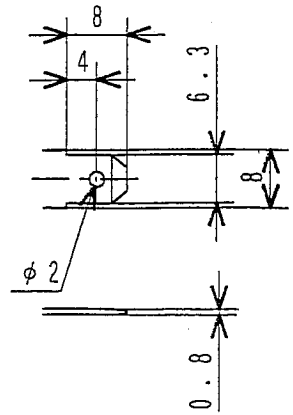
ISO 3046

WITHOUT FAN

After 30-50hrs breaking in



PFC-S3Q-013

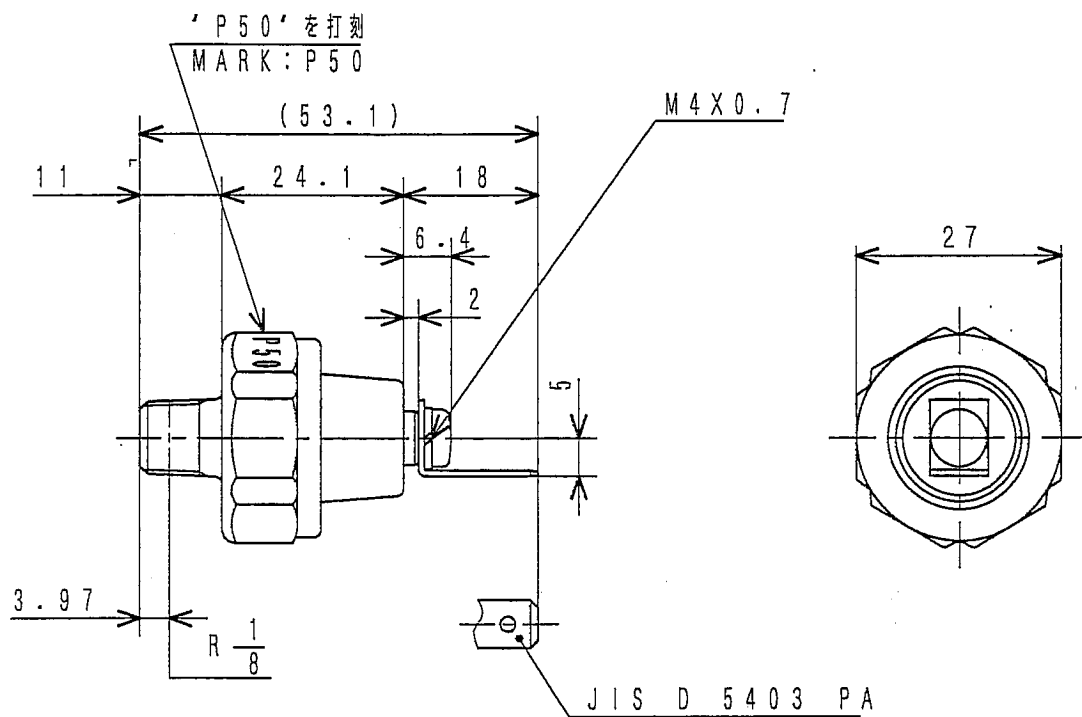


| 部品番号 PART No. | 作動温度 OPERATING TEMP. | |
|------------------|-------------------------|---------------------------|
| MC880-900 | 温度下降時 DECREASE | ≤100℃±4℃ で接点開 OPEN |
| | 温度上昇時 RISE | ≥100℃±2℃ で接点閉 CLOSE |
| MC880-901 | 温度下降時 DECREASE | ≤105℃±4℃ で接点開 OPEN |
| | 温度上昇時 RISE | ≥105℃±2℃ で接点閉 CLOSE |

| | | |
|----------------------|-----------|-------------|
| 定格負荷 RATED LOADED | 1A以上 MIN. | 0.5A以上 MIN. |
| 定格電圧 RATED VOLT. | 12V | 24V |

サーモスイッチ
SWITCH, THERMO

MC880-900

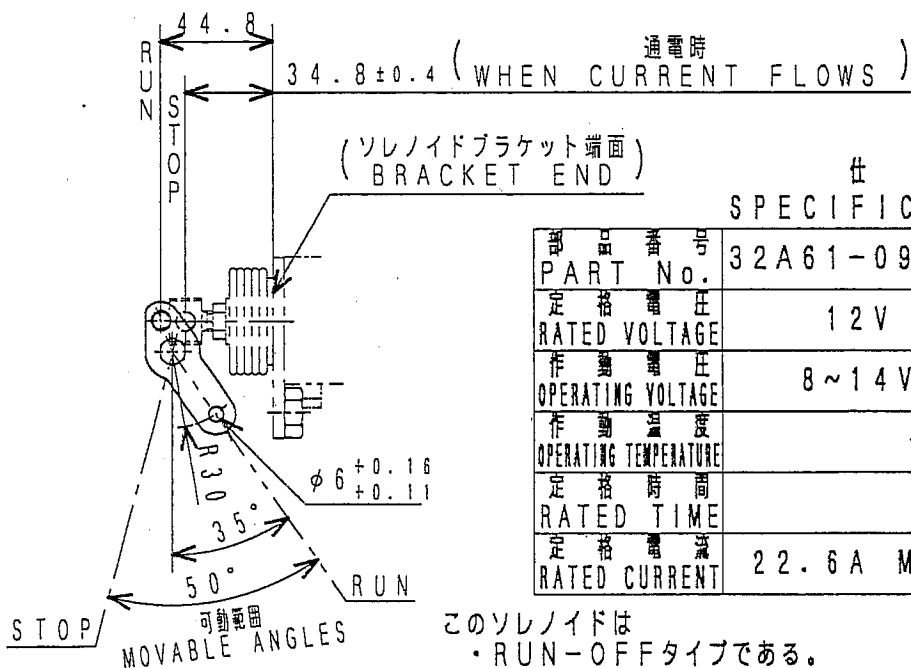
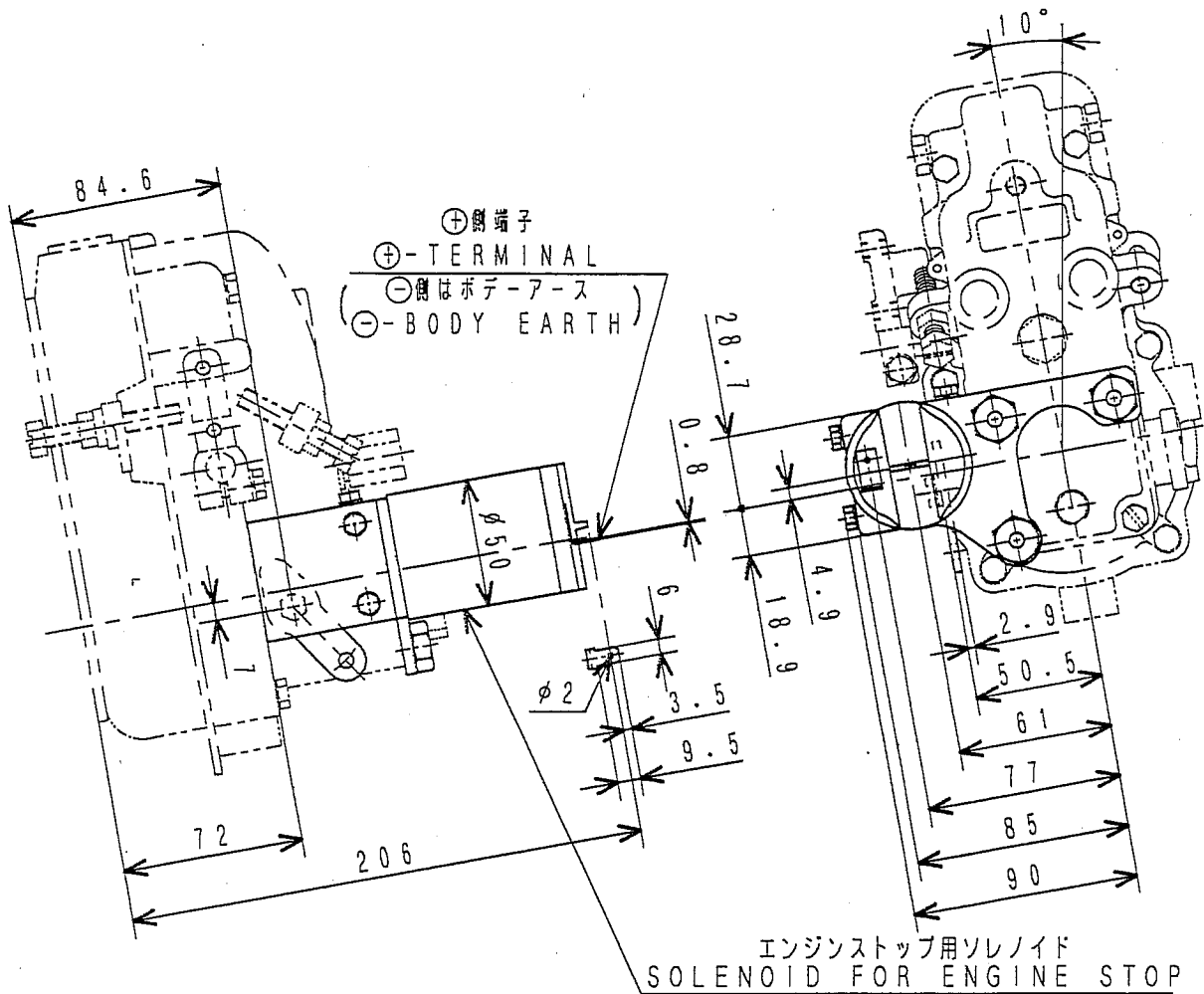


仕 様
SPECIFICATIONS

| | |
|-----------------------------|------------------------------------|
| 作 動 圧 力 OPERATING PRESS. | 49 kPa { 0.5 kgf/cm ² } |
| 作 動 電 圧 OPERATING VOLT. | 12 V - 5 W 24 V - 3 W |
| 結 線 様 式 CONNECTION | b (— ○ —) |

油圧スイッチ
SWITCH, OIL PRESSURE

31A90-00700



仕 様
SPECIFICATIONS

| | | |
|----------------------------------|-------------|-------------|
| 部 品 番 号 PART No. | 32A61-09010 | 32A61-09020 |
| 定 格 電 圧 RATED VOLTAGE | 12V | 24V |
| 作 動 電 圧 OPERATING VOLTAGE | 8~14V | 16~27V |
| 作 動 温 度 OPERATING TEMPERATURE | -30~90℃ | |
| 定 格 時 間 RATED TIME | 10 sec | |
| 定 格 電 流 RATED CURRENT | 22.6A MAX | 11.7A MAX |

このソレノイドは
 ・ RUN-OFFタイプである。
 ・ 噴射ポンプASSY (ストップソレノイド付) で供給する。(補用品を除く)

THIS SOLENOID
 ・ IS A RUN-OFF TYPE
 ・ IS SUPPLIED WITH AN INJ. PUMP
 ASSY (EXCEPT SERVICE PARTS)

ストップ ソレノイド

STOP SOLENOID OUTLINE

32A61-09010