



ADT – E# – ALL MODELS – FUEL RECOMMENDATION
– AMENDED - DECEMBER 2018 – AMENDED
OCTOBER 2020 – AMENDED JUL 2021

| NEW MACHINES EX-FACTORY WITH THIS CHANGE: | | | |
|---|------|-----|-----------------------|
| Machine | DATE | PIN | Part Manuals Affected |
| B18E | | - | - |
| B20E | | - | - |
| B25E | | - | - |
| B30E | | - | - |
| B35E | | - | - |
| B40E | | - | - |
| B45E | | - | - |
| B50E | | - | - |
| B60E | | - | - |

| INTERCHANGEABILITY (ICA) | | | | | | |
|---|-------------|--|-----|-----------------|---|-----|
| YES = New and Old parts are interchangeable | | NO = New and Old parts are not interchangeable | | SU = Supersedes | → = New part can be used instead of Old part but not vice-versa | |
| NEW P/NO. | DESCRIPTION | QTY | ICA | OLD P/NO. | DESCRIPTION | QTY |
| - | - | - | - | - | - | - |

AMENDED DECEMBER 2018:

- Page 2 – Information removed for FAME/BioDiesel quantities as this is not approved.
- Page 3 – Note added for use of FAME/BioDiesel.

AMENDED OCTOBER 2020:

- Page 2 to 3 - Added Stage 5 engines
- Page 1 to 3 - Added Paraffinic Diesel Fuel (HVO / BtL)

AMENDED JULY 2021:

- Page 2 to 3 - Changed Paraffinic Diesel Fuel (HVO / BtL) Approval.

PURPOSE

This SIB serves to inform end users of the fuel requirements on engines used in the E# ADT's.

The use of improper or incorrect fuel is illegal in regulated countries and the use of such a fuel is punishable by civil penalties. Please adhere to all fuel specifications and regulations applicable to the relevant country.

The selection and use of the correct fuel is essential for engine performance, engine life and fuel economy. It is also important that the fuel is not contaminated e.g. with dust or water since any contamination may cause irreversible damage to the engine.

Engines designed to operate with exhaust aftertreatment fluid (AdBlue/DEF), that operates without the exhaust aftertreatment fluid and is not deregulated as per the Bell STS modification & programming, will render all manufacturing warranties void, including any systems or structures that are in contact with the exhaust system ie, catalyst, exhaust pipes and ducting, bin heating mechanism and bin.

Fuel types that are permitted to be used:

- Diesel fuel that meet EN 590 / ASTM D975 or equivalent national / international standard may be used.
- Paraffinic Diesel fuel that meet EN 15940 or equivalent national / international standard may be used

| Service Bulletin Details | |
|----------------------------------|----------------------------------|
| Date Released: | December 2016 (Amended Jul 2021) |
| Classification: | Information |
| Parts: | None |
| Special Equipment Needed: | None |
| Additional Information: | None |

Fuel types are not permitted to be used:

- Marine diesel fuel
- Aviation turbine fuel
- Heating oils

All manufacturer warranties are likely to be rendered void by using improper or incorrect fuel.

Maximum allowable sulphur content of diesel can be found in the table below:

| | Maximum Sulphur Content | Engine Filter & Oil Change Interval | FAME / Biodiesel | HVO / Paraffinic fuel |
|---|---|-------------------------------------|------------------|-----------------------|
| OM 904 - 926 LA | | | | |
| Stage 2 / 3A (Engines without an exhaust aftertreatment system, No SCR) | Up to 0.05% by weight (500ppm) | As per RSG | Approved | Not Approved |
| | From 0.05% by weight (500 ppm) to 0.1% by weight (1000 ppm) | 50 % of RSG interval | | |
| | Over 0.1% by weight (1000 ppm) | 25 % of RSG interval | | |
| Stage 3B / TIER 4 Interim (Engines with an exhaust aftertreatment system, SCR) | Up to 0.05% by weight (500 ppm) | As per RSG | Not Approved | Not Approved |
| Stage 3B / TIER 4 Interim (De-Tiered / Non-Regulated) Machines no longer used in regulated countries and that has been deregulated as per the BELL STS modification & programming. | Up to 0.05% by weight (500 ppm) | As per RSG | Not Approved | Not Approved |
| | From 0.05% by weight (500 ppm) to 0.1% by weight (1000 ppm) | 50 % of RSG interval | | |
| | Over 0.1% by weight (1000 ppm) | 25 % of RSG interval | | |

OM 934 - 936 LA

| | | | | |
|---|----------------------------------|------------|--------------|----------|
| Stage 4 / TIER 4 (Engines with an exhaust aftertreatment system (SCR), and a cooled exhaust gas recirculation (EGR) system) | Up to 0.0015% by weight (15 ppm) | As per RSG | Not Approved | Approved |
| UN ECE R96 Downgraded Machines no longer used in regulated countries and that has been deregulated as per the BELL EFP Downgrade program | Up to 0.005% by weight (50 ppm) | As per RSG | Not Approved | Approved |
| Stage 5 (Engines with an exhaust aftertreatment system (SCR), a cooled exhaust gas recirculation (EGR) system and a Diesel Particle Filter (DPF)) | Up to 0.0015% by weight (15 ppm) | As per RSG | Not Approved | Approved |

OM 470 - 473 LA

| | | | | |
|---|----------------------------------|------------|--------------|---|
| Stage 3A Factory build ADT's sold into Non-Regulated markets and markets regulated to Stage 3A / TIER 3 | Up to 0.05% by weight (500 ppm) | As per RSG | Not Approved | Approved |
| Stage 4 / TIER 4 (Engines with an exhaust aftertreatment system (SCR), and a cooled exhaust gas recirculation (EGR) system) | Up to 0.0015% by weight (15 ppm) | As per RSG | Not Approved | Approved ¹⁾ |
| UN ECE R96 Downgraded Machines no longer used in regulated countries and that has been deregulated as per the BELL EFP Downgrade program | Up to 0.05% by weight (500 ppm) | As per RSG | Not Approved | Approved |
| Stage 5 (Engines with an exhaust aftertreatment system (SCR), a cooled exhaust gas recirculation (EGR) system and a Diesel Particle Filter (DPF)) | Up to 0.0015% by weight (15 ppm) | As per RSG | Not Approved | OM470/1 - Approved. OM473 – Not Approved ²⁾ |

1) The certification does not required to test fuel according to EN15940.

2) OM473LA Euro VI (On Highway) is approved, OM473LA Stage V (Off Highway) awaits certification before it can be approved.

FAME (Fatty Acid Methyl Esters) / Biodiesel

When using FAME / BioDiesel as an alternative in the relevant engines as stated in the table above, please note:

- FAME / Biodiesel fuel may be used if it complies with DIN EN 14214.
- Operating the vehicle with FAME / Biodiesel fuel results in:
 - Higher fuel consumption.
 - Reduced engine power output (8% approx.).
 - Increased white smoke after cold start.
 - Reduced maintenance intervals (30% of the change interval for operation with fossil fuels, the fuel filter also needs to be changed).
- FAME / Biodiesel fuel is not advised on engines with an exhaust aftertreatment system as these fuels increases the NOx levels in the exhaust gasses, counter acting the exhaust aftertreatment system.
- Any use of pure vegetable/animal oil as an alternative to diesel fuel or FAME is strictly prohibited.

FAME is a highly effective solvent and should therefore not be brought into contact with paintwork, etc.

Note:

Using FAME/BioDiesel in Bell manufactured machinery does not void the warranty. However, failures that result from the use of any FAME/BioDiesel fuel are not Bell factory defects. Therefore, the cost of repairs, parts and workmanship would not be covered by Bell warranty.

Paraffinic Diesel Fuel (HVO / BtL)

Paraffinic diesel fuel (HVO / BtL) that meets the EN 15940 standard are permitted to be used on engines as per above.