

CHASSIS ENGINEERING GUIDELINES

(ISSUE B, AUGUST 2019)

DESIGN GUIDELINES FOR:

FUSO SHOGUN 4x2

FUSO HD 4x2

MODELS:

FP74HGR

FP54SGR

APPLICATIONS - FLAT DECK, CURTAINSIDER, TRACTOR

These recommendations have been prepared for design engineers and body builders as a guide to assist when selecting and specifying chassis modification and/or body fitment.

These guidelines should be read in conjunction with the Mitsubishi Fuso Truck & Bus Body Equipment Mounting Directives available on the FUSO Body Builder Portal. Use these guidelines to determine any reinforcement details required for each application.

CHASSIS FRAME MATERIAL

Hot Rolled Steel, 540 MPa tensile, 380 MPa yield.

LOAD CONSIDERATIONS

FLAT DECK

U.D.L.	Consider as a uniformly distributed load over whole or part of deck length.
CURTAINSIDER	Consider as a uniformly distributed load over whole or part of deck length in conjunction with point loads imposed by body and taillifts.
LOAD CENTRE	Determined as water level load 600mm above chassis.

TRACTOR

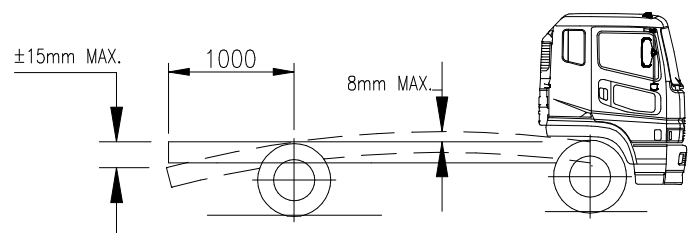
POINT LOAD	Consider as a concentrated load applied through the fifth wheel position ahead of rear axis.
SIDE LIFTER	Side lifter operation is a heavy duty application and may require additional frame engineering.

MAXIMUM DESIGN STRESS

Recommended maximum design stress = 35%* of chassis yield stress (133 MPa) for sections of frame that are unmodified or do not contain stress raisers. Appropriate allowance should be made for details in the frame that have been modified or contain stress raisers. Refer to the body builders manual for stress levels using static load applications.

MAXIMUM CHASSIS DEFLECTION

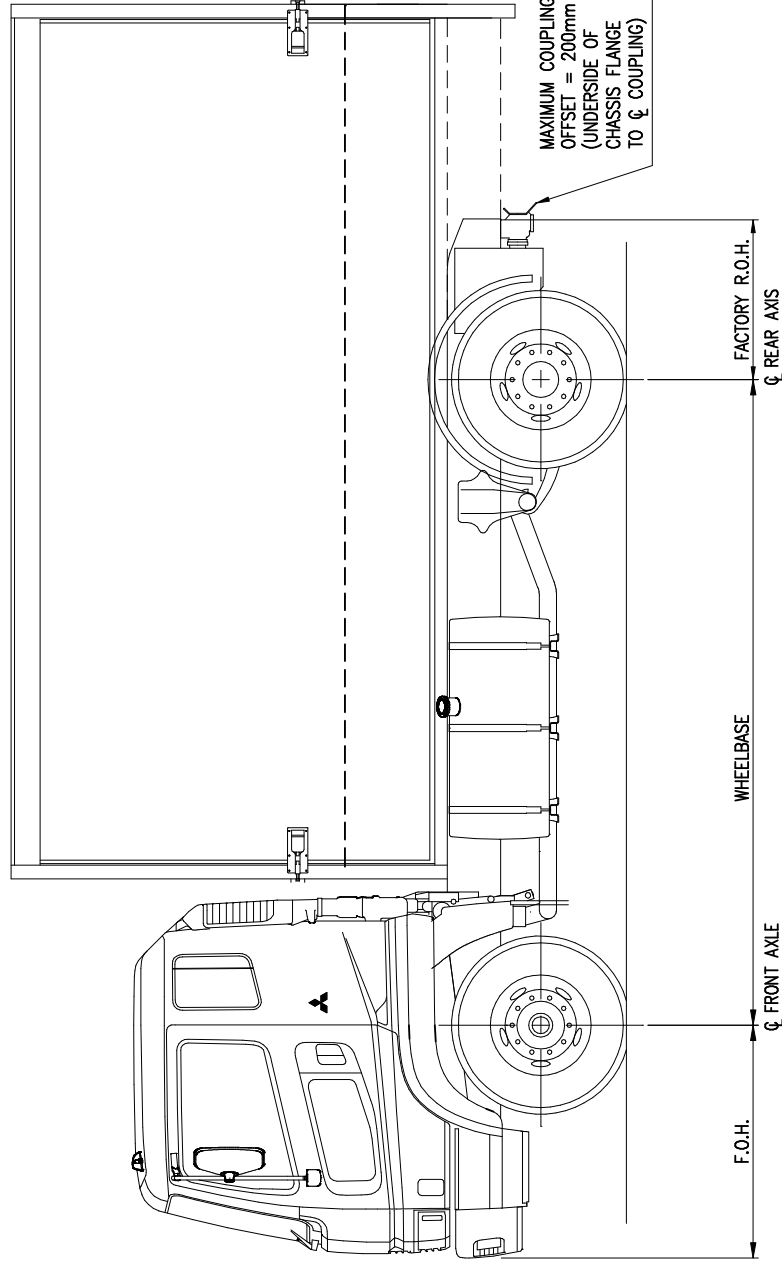
CASE 1	Between front and rear axis. Maximum permissible deflection: ± 8 mm.
CASE 2	Rear overhang. Maximum permissible deflection: 15mm at 1000mm or greater, rear of rear axis.



This specification sheet applies to vehicles supplied by Fuso NZ for the New Zealand market. REF: J24267 / G-HDEUROSUB.DWG
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NOTES:

- 01) THIS CHASSIS FRAME IS SUITABLE FOR FITTING A CURTAINSIDER BODY WITHOUT A SUBFRAME, PROVIDING THE BODY/CHASSIS REAR OVER HANG DOES NOT EXCEED 2000mm.
- 02) THE FITTING OF A BODY AND ANY WORK ON THE CHASSIS FRAME MUST BE CARRIED OUT IN ACCORDANCE WITH THE FUSO GUIDELINES FOR THIS MODEL AND GOOD INDUSTRY PRACTICE.
- 03) IF THE BODY/CHASSIS REAR OVERHANG EXCEEDS 2000mm, A SUBFRAME OR CHASSIS REINFORCEMENT IS RECOMMENDED, AND THIS REQUIREMENT SHOULD BE DETERMINED BY ENGINEERING CALCULATION AND ASSESSMENT USING THE FUSO GUIDELINES.
- 04) THIS DRAWING IS FOR USE AS A GUIDE ONLY, TO ASSIST WHEN SELECTING AND SPECIFYING CHASSIS MODIFICATION AND/OR BODY FITMENT.
- 05) REGARDLESS OF THE BODY/CHASSIS REAR OVER HANG, FITMENT OF A TAILLIFT MAY REQUIRE A SUBFRAME OR ADDITIONAL CHASSIS REINFORCEMENT, AND THIS REQUIREMENT SHOULD BE DETERMINED BY ENGINEERING CALCULATION AND ASSESSMENT USING THE FUSO GUIDELINES.



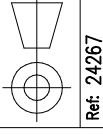
MODEL	WHEELBASE	F.O.H.	FACTORY R.O.H.
FP54SGR/FP74HGR	3800mm	1370mm	945mm

B	20/8/2019	REISSUE WITH EURO 6 MODEL CODES	K.H.
A	1/8/2019	FIRST ISSUE	K.H.
ISSUE DATE	CHANGES MADE		BY



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FP54SGR/FP74HGR RIGID 4 x 2
SAMPLE CURTAINSIDER LAYOUT



Ref: 24267
 Drawn: R.F.
 Date: 20/8/19

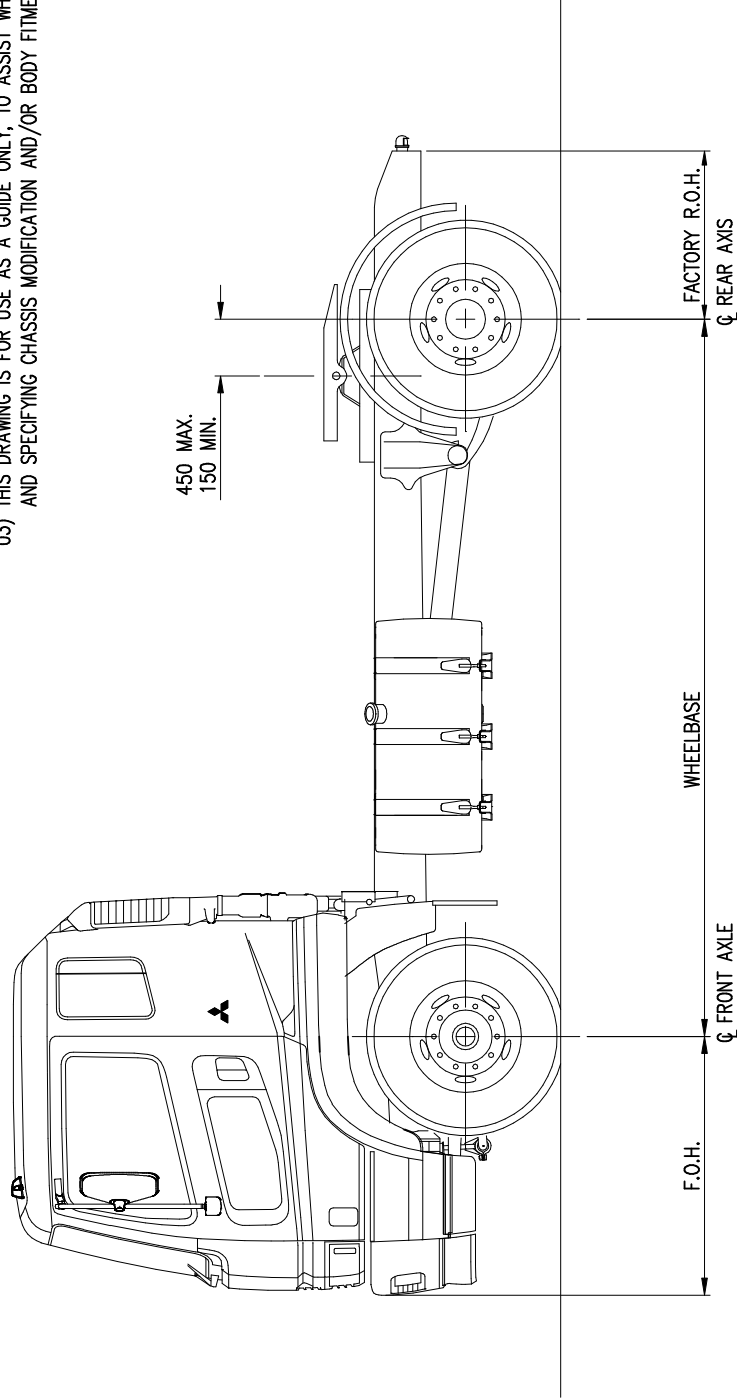
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 Scale: 1:30

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NOTES:

- 01) THE FITTING OF A FIFTH WHEEL AND ANY WORK ON THE CHASSIS FRAME MUST BE CARRIED OUT IN ACCORDANCE WITH THE FUSO GUIDELINES FOR THIS MODEL AND GOOD INDUSTRY PRACTICE.
- 02) FOR FIFTH WHEEL APPLICATIONS, A SUBFRAME, ATTACHMENT ANGLES, OR CHASSIS REINFORCEMENT IS REQUIRED, AND THIS REQUIREMENT SHOULD BE DETERMINED BY ENGINEERING CALCULATION AND ASSESSMENT USING NZS450 AND THE FUSO GUIDELINES.
- 03) THIS DRAWING IS FOR USE AS A GUIDE ONLY, TO ASSIST WHEN SELECTING AND SPECIFYING CHASSIS MODIFICATION AND/OR BODY FITMENT.



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FP54SGR/FP74HGR	3800mm	1370mm	945mm

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FP54SGR/FP74HGR 4 x 2
SAMPLE TRACTOR UNIT LAYOUT

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