CHASSIS ENGINEERING GUIDELINES

(ISSUE A, AUGUST 2018)

DESIGN GUIDELINES FOR:

FUSO FIGHTER 4x2

MODELS:

FK61, FK62, FK65, FM65, FM67

APPLICATIONS - FLAT DECK, CURTAINSIDER, TIPPER

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 and/or Bus Body Equipment Mounting Directives available on the FUSO Body Builder Portal.

CHASSIS FRAME MATERIAL

Hot Rolled Steel, 540 Mpa tensile, 390 Mpa yield.

LOAD CONSIDERATIONS

TIPPER

AT LIFT OFF	Point when body raised just clear of the chassis thus imposing two point loads on the chassis rails at hinge and hoist mount.
AT MAX TIP	Point when the body is raised to tip angle of 48°, (tail door closed) so loads act at the hoist mounting and hinge pivot points.
LOAD CENTRE	Determined as water level load 300mm above chassis.
SPREADING	Spreading work imposes higher frame loads and may require chassis reinforcement.

FLAT DECK

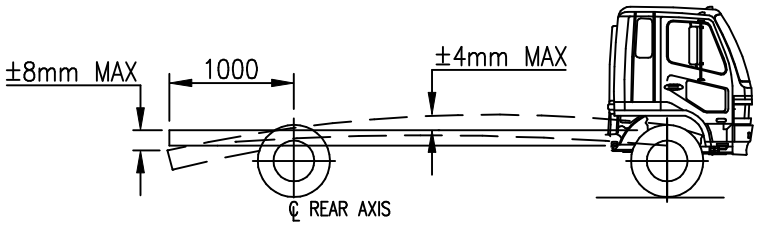
U.D.L.	Consider as a uniformly distributed load over whole or part of deck length.
CURTAINSIDER	Consider as a uniformly distributed load over whole or part of deck length in conjunction with point loads imposed by body and taillifts.

MAXIMUM DESIGN STRESS

Maximum design stress = 35% of chassis yield stress (108.5 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: ±4mm.
CASE 2	Rear overhang. Maximum permissable deflection: 8mm at 1000mm or greater, rear of axis.



NOTES:

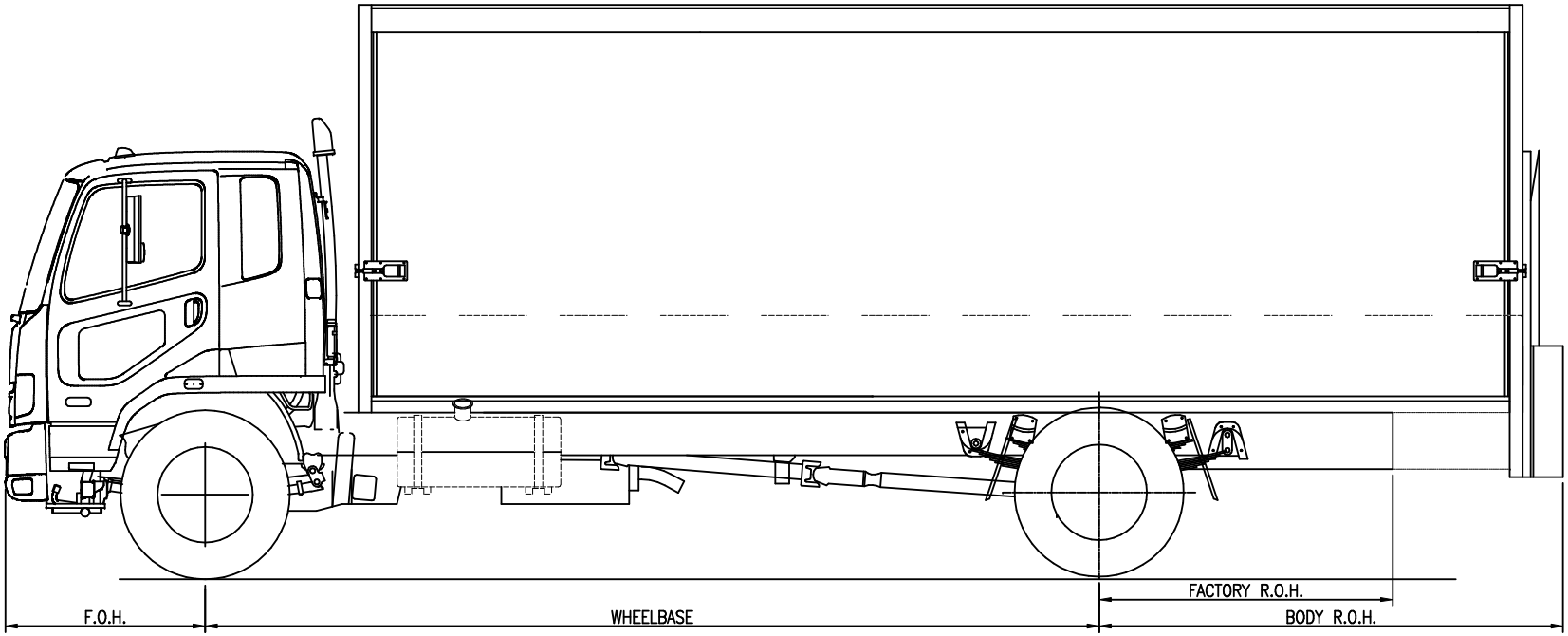
01) THIS CHASSIS (WITHOUT A SUBFRAME) IS SUITABLE FOR FITTING A CURTAINSIDER BODY AND LOADS UP TO THE MANUFACTURERS GVM PROVIDING THE BODY/CHASSIS R.O.H. DOES NOT EXCEED THE RELEVANT BODY R.O.H. FIGURE STATED.

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 THOSE STATED BELOW, 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.	BODY R.O.H.
FK61FH1/FK62FHZ1	4270mm	1135mm	1815mm	2900mm
FM65FH2	4280mm	1245mm	1930mm	2995mm
FK61FK1	4870mm	1135mm	2090mm	2900mm
FK61FL/FK62FLZ1/ FK65FLZ1/FK65FLZ2	5210mm	1135mm	2300mm	3045mm
FK65FMZ2	5540mm	1135mm	2400mm	3075mm
FM65FM2/FM67FM2	5550mm	1245mm	2530mm	3075mm

ISSUE	DATE	CHANGES MADE	BY
A	1/8/2018	FIRST ISSUE	K.H.

FUSO NEW ZEALAND LTD
8 Landing Drive, Auckland Airport, 2022
PO Box 107 166, Auckland Airport, 2150

FIGHTER EURO 5 FK/FM 4 x 2
SAMPLE CURTAINSIDER/FLAT DECK

Ref: 22974	3 - 560814			Sheet: 01
	Drawn: R. F.	Issue: A	Chkd:	
	Date: 1/8/2018	Scale: 1:30	Date:	560814A1

NOTES:

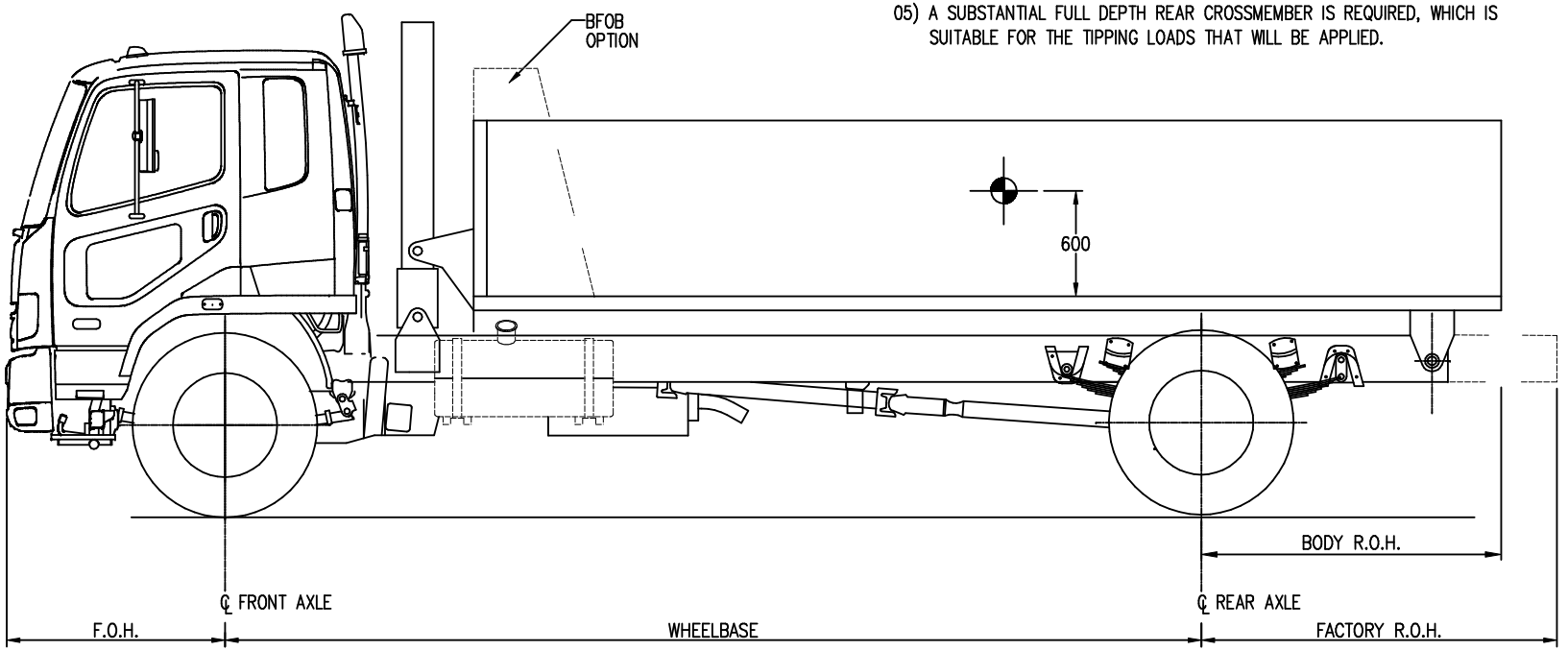
01) THIS CHASSIS (WITHOUT A SUBFRAME) IS SUITABLE FOR FITTING AN F.O.B. (OR B.F.O.B.) HOIST AND BODY, AND LOADS UP TO THE MANUFACTURERS G.V.M. PROVIDING THE BODY OR HINGE PIVOT DO NOT EXCEED THE RELEVANT BODY R.O.H. STATED.

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 REAR OVERHANG OR THE HINGE PIVOT EXCEEDS THOSE STATED BELOW, 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) A SUBSTANTIAL FULL DEPTH REAR CROSSMEMBER IS REQUIRED, WHICH IS SUITABLE FOR THE TIPPING LOADS THAT WILL BE APPLIED.



MODEL	WHEELBASE	F.O.H.	FACTORY R.O.H.	BODY R.O.H.
FK61FH1/FK62FHZ1	4270mm	1135mm	1815mm	2900mm
FM65FH2	4280mm	1245mm	1930mm	2995mm
FK61FK1	4870mm	1135mm	2090mm	2900mm
FK61FL/FK62FLZ1/ FK65FLZ1/FK65FLZ2	5210mm	1135mm	2300mm	3045mm
FK65FMZ2	5540mm	1135mm	2400mm	3075mm
FM65FM2/FM67FM2	5550mm	1245mm	2530mm	3075mm

ISSUE	DATE	CHANGES MADE	BY
A	1/8/2018	FIRST ISSUE	K.H.

FUSO NEW ZEALAND LTD
8 Landing Drive, Auckland Airport, 2022
PO Box 107 166, Auckland Airport, 2150

FIGHTER EURO 5 FK/FM 4 x 2 SAMPLE
F.O.B. TIPPER LAYOUT

Ref: 22974	3 - 560814			Sheet: 02
	Drawn: R.F.	Issue: A	Chkd:	
	Date: 1/8/2018	Scale: 1:25	Date:	560814A2