TEMPLATE FOR OPERATORS MANUAL

(7A) BETJENINGSHÅNDBOK

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0 FORORD / Foreword

The operatiors manual forms the base for a proper and safe use of the machine. This document must describe all aspects concerning operations and maintenance activties performed by driver (daily, weekly and monthly interval).

Numbering of chapter are fixed and changes should only be done upon written approval from Bane NOR.

1 Revisjonshistorikk / revisionhistory

Dato	Rev.	Kommentar	Utført	Kontr.	Godkj.

2 KAM – FEILLISTE / KAM-faultlist

This chapter describes the three different fault categories (K=Critical, A=Serious and M=Minor) and how the personnel should act if they occure. A full list of faults in each category shall be listed in sub-chapters 2.1, 2.2 and 2.3. Norwegian text below is an example.

2.1 K-Feil

ID nr.	Fault/ problem	Probable cause	Possible action	Activity to mitigate risk	Possible continued service
ID nr	**Feil/problem**	**Antatt årsak**	**Mulig tiltak**	**Aktivitet som forebygger risiko**	**Mulighet fortsatt bruk**
K 1.1					
K 1.2					

2.2 A-Feil

ID nr.	Fault/ problem	Probable cause	Possible action	Activity to mitigate risk	Possible continued service
ID nr	**Feil/problem**	**Antatt årsak**	**Mulig tiltak**	**Aktivitet som forebygger risiko**	**Mulighet fortsatt bruk**
A 1.1					
A 1.2					

2.3 M-Feil

ID nr.	Fault/ problem	Probable cause	Possible action	Activity to mitigate risk	Possible continued service
ID nr	**Feil/problem**	**Antatt årsak**	**Mulig tiltak**	**Aktivitet som forebygger risiko**	**Mulighet fortsatt bruk**
M 1.1					
M 1.2					

3 GENERELL BESKRIVELSE / General description

This chapter is a general description of the machine, technical data, external and internal layout, internal and external lighting, circuit breakers and switches and attached equipment.

3.1 Tekniske data / Technical data

3.2 Utvendig layout / External layout

3.3 Innvendig layout / Internal layout

3.4 Oversikt innvendig belysning / Overview internal ligthing

3.5 Oversikt utvendig belysning / Overview external ligthing

3.6 Sikringer og brytere / Circuit breakers and switches

3.7 Påmontert utstyr / Attached equipment

4 TABELLER OG RESTRIKSJONER / Tables and restrictions

This chapter describes the restrictions during service e.g. without ATC/ETCS og when the machine is being hauled.

4.1 Generelt / General

4.1.1 Restriksjoner på transport av farlig gods

4.2 ATC/ETCS

4.2.1 Ref ATC-håndbok JD 347

4.2.2 Særskilte betjeninger

4.3 Drift med redusert bremsekapasitet / Service with reduces brake efford

4.4 Oppstart / Start up

Eksempel: Temperatur, tid mellom forsøk

4.5 Kjøremodus / Drive mode

4.5.1 Grenseverdier for transportkjøring / Limitations for Drive mode

4.6 Arbeidsmodus / Work mode

4.6.1 Grenseverdier for arbeidskjøring / Limitations for Work mode

Eksempel: Varsellys, hastighet, temp, vind, nedbør

4.7 Sleping / Hauling

4.7.1 Avslått motor med innkoblet brems / Engine off with brake active

4.7.2 Avslått motor med utkoblet brems / Engine off with brake inactive

4.7.3 Motor i gang med innkoblet brems / Engine running with active brake

4.7.4 Motor i gang med utkoblet brems / Engine running with brake inactive

5 SJEKKLISTE FOR UTTAK, INNSETT OG KONTROLL / Checklist for start up, parking and control

This chapter describes the procedures e.g. when starting up the machine in the morning or before parking for night. Also description of change of driving direction, driving from basket etc.

5.1 Innledning / Introduction

5.2 Uttak-prosedyre / Start up procedure

Start up I is typically in the morning or if the machine has not been used for a couple of days. Start up II is typically when the machine has been used and next shift is continuing.

5.2.1 Uttak I / Start up I

5.2.2 Uttak II / Start up II

5.3 Oppkobling / Start up

5.4 ATC/ETCS-KONTROLL / ATC/ETCS Control

5.5 Gjennomfør Bremsetest / Perform brake test

I henhold til kapittel 10.2 / according to chapter 10.2.

5.6 INNSETT-PROSEDYRE / Parking procedure

5.6.1 Innsetting I / Parking I

5.6.2 Innsetting II / Parking II

5.7 Bytte av førerende / Change of drivers cab

5.8 Arbeidsmodus / Work mode

5.8.1 Kjøring i arbeidsmodus / Driving in work mode

5.8.1.1 Arbeidskjøring 0 - xx km/h / Work mode 0-xx km/h

5.8.1.2 Arbeidskjøring / Shunting mode 0 - xx km/h

5.8.1.3 Kjøring fra kurv / From lift 0 - XX km/h

5.8.2 Kran / Crane

5.8.3 Personløft / Personnel lift

5.8.4 Ledningstrykker / Catenary work

5.8.5 Pantograf / Pantograph

5.8.6 Snøutstyr / Snow removal equipment

6 VEDLIKEHOLD / Maintenance

This chepter describes the maintenance performed by the driver. Unambiguous referance to maintenance program must be included to secure tracebility.

6.1 Daglig vedlikehold / Daily maintenance

6.2 Ukentlig vedlikehold / Weekly maintenance

6.3 Månedlig vedlikehold / Monthly maintenance

7 FEILSØKING OG FEILRETTING / Fault tracing and fault corrections

This chapter describes the possibilities the driver has to perform fault tracing including what can be done to correct the faults.

7.1 A. Kjøretøy/vogn - Hovedgruppe / Vehicle

7.2 B. Rammeverk - primær struktur / Vehicle body

7.3 C. Vognkasse og Påmontert utstyr / Vehicle fitting out and attached equipment

7.4 D. Interiør / Interior appointments

7.5 E. Løpeverk / Running gir

7.6 F. Motor - drivlinje / Power systems, drive unit

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7.17 S. Støt og draganordninger / Vehicle linkage devices

7.18 T. Skap og rack / Carrier systems, enclosures

7.19 U. Elektro / Electrical wiring

8 BRANN OG EVAKUERING / Fire and Evacuation

This chapter describes the varoius equipment and systems for smoke and fire detection including procedures for how to act in case of fire or smoke.

8.1 Oversikt over utstyr / Equipment overview

8.2 Branndetektering / Fire detection

8.3 Brannslukking / Firefighting

8.4 Prosedyrer og rømningsveier / Procedures and evacuation routes

9 FØRSTEHJELPSUTSTYR, NØDVERKTØY, HJELPEVERKTØY / Firs aid equipment, emergency equipment, support utlilities

This chapter describes equipment for first aid, emergency or other help. Must be in accordance with EN14033-1 Table J.1. Must also include layout for placement of equipment including user description.

10 BETJENINGSINSTRUKSER / Operating instructions

In this chapter user manuals for each system must be included. Norwegian text below is an example.

10.1 A. Kjøretøy/vogn - Hovedgruppe / Vehicle

10.2 B. Rammeverk - primær struktur / Vehicle body

10.3 C. Vognkasse og Påmontert utstyr / Vehicle fitting out and attached equipment

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10.5 E. Løpeverk / Running gir

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10.8 H. Hjelpekraft - Strømtilførsel / Auxiliary operating equipment

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10.10 K. Belysning / Lighting

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10.12 M. Hjelpeutstyr / Ancillary operating equipment

10.13 N. Dører / Doors, entrances

10.14 P. Informasjonssystem / Information facilities

10.15 Q. Pneumatikk - Hydraulikk / Pneumatic - hydraulic equipment

10.16 R. Bremser / Brake

10.17 S. Støt og draganordninger / Vehicle linkage devices

10.18 T. Skap og rack / Carrier systems, enclosures

10.19 U. Elektro / Electrical wiring

11 SYSTEMBESKRIVELSER / Systemdescriptions

This chapter consists of document reference to systemdescriptions for all systems.

System	System description ID
A – Vehicle	RM-0000xxx
B – Vehicle body	RM-0000yyy
C – Vehicle fitting out and attached equipment	RM-0000zzz
etc	etc

12 REFERANSER / References

Kapittel	Dokumentnummer	Tittel