



INSTRUCTION TO SERVICE

ITS: 6702

SECTION:	219 Engine and Transmission
WRITTEN BY:	Mike Pearson
SUBJECT:	BAE Auto Traction Control (ATC) enabling software update

ITS6702

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PROCEDURE:

1. Turn the main battery disconnect switch to the "OFF" position if needed.
2. Follow BAE instruction as per;



COORDINATION MEMORANDUM

DATE: May 8th, 2017

Project Name: NFI Hybrid Electric Bus Program	Memo Number: CM-NF-17-009	REQ./DA. Or Other NO. 1006723 – HSAM.PSE
Subject: Authorization for Fleet Installation of BAE Systems NFR5.3.13.8 and NFR6.0.17.10 Software		

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ABSTRACT:

BAE Systems has completed release of HDS software versions NFR5.3.13.8 and NFR6.0.17.10. Both software versions are available for fleet installation. This coordination memo summarizes key functions and features included in these software versions and BAE Systems' recommendation to New Flyer and plans for the upgrade to all vehicles listed in Table 1.

REFERENCE DOCUMENTS:

NA

ACTIONS:

BAE Systems requests New Flyer to provide authorization to BAE Systems for installation of software versions NFR5.3.13.8 and NFR6.0.17.10 as outlined in this coordination memo. BAE Systems requests New Flyer provide: (1) the release date for the Vansco update for hill hold assist as this will need to be installed on King County SR #1760, 1761 and 1851 prior to the install of NFR5.3.13.8, and (2) instructions on how to address the enabling of Traction Control in our communications to the Transit Agencies about the changes included in NFR5.3.13.8 and 6.0.17.0. Please provide questions to John Sylvester at john.p.sylvester@baesystems.com

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Approved by: John Sylvester _____<Signed>_____ Systems Engineer	Approved by: John Burgin _____<Signed>_____ Product Support Lead
Approved by: Greg Marx _____<Signed>_____ Applications Engineer	Approved by: Allison Vaughan _____<Signed>_____ Program Manager

Discussion:

Software versions NFR5.3.13.8 and NFR6.0.17.10 include the following features and changes:

- As requested by New Flyer, Anti-Spin Regulation, (ASR, Traction Control) foldback has been enabled for the fleets indicated in Table 1 and Table 2.
- Updates to change and improve the AC Traction Motor, (ACTM) oil pressure fault condition that is asserted as a "F148 - Low Oil Failure During Operation (CBIT Pressure)" fault. ACTM oil pressure switch faults occur predominantly at 0 RPM and low pump speed. These faults have been shown to be reduced with implementation of a 10% increase of the minimum oil pump speed.
- Updates to improve the Energy Storage System Battery Management System pre-charge fault condition which is being asserted as a "F054 - Power Link Precharge Failure" fault. Control has been changed to increase the allotted time for pre-charge to complete.
- Update to disable nuisance fault codes "G127 - High Voltage Interlock 1 Monitor" within the Propulsion Control System (PCS) and "J127 - High Voltage Interlock 1 Monitor" in the Accessory Power System (APS) for all orders.
- Updates to limit the ACTM Oil pump speed based on oil temperature. The maximum pump speed has been reduced to 60% until the oil temperature reaches 85°C, at which time the maximum pump speed will return to 100%. This reduction in pump speed at oil temperatures below 85°C has demonstrated a decrease in ACTM oil foaming.
- Addition of multiple vehicle order adjustment files to support new bus orders.

King County Metro (KCM) has requested that buses in SR#s 1760, 1761 and 1851 have hill start assist enabled to match the feel and driveability of the 60' buses which requires a New Flyer Vansco upgrade to engage the brake interlock at zero speed. BAE software 5.3.13.8 cannot be installed into these KCM Fleets until the Vansco software update is also installed. BAE Systems requests that New Flyer provide the release date for the Vansco update so that the schedule for software installs can be planned with KCM.

BAE Systems plans to install software updates in the fleets identified in Table 1, at no charge, once approvals from New Flyer and the transit agencies are received as these fleets are currently covered under a BAE Systems warranty program. BAE Systems will advise New Flyer of any software issues during installs, if present, and communicate to New Flyer once these fleet updates are complete.

For the fleets listed in Table 2, which are no longer covered by a BAE Systems warranty program, BAE Systems will be making 5.3.13.8 available and contracting with the transit agencies for install arrangements on a fleet by fleet basis, at their option. If installation of 5.3.13.8 is required for New Flyer as a result of the Traction Control change, BAE Systems can provide a quote to have BAE Systems techs install 5.3.13.8 on these fleets.

BAE Systems requests New Flyer provide confirmation on how to handle communications and installation plans for the change to enable Traction Control.

Software version NFR5.3.13.8:

New Flyer software bundle NFR5.3.13.8 is available for software release. Based on internal BAE Systems testing, analysis and fleet vehicle testing the following vehicle configurations are now approved for New Flyer bundle NFR5.3.13.8:

- 40' vehicles
- 60' vehicles



CM-NF-17-007

May 1, 2017

Authorization for Fleet Installation of BAE Systems NFR5.3.13.8 and NFR6.0.17.10 Software

Software version NFR6.0.17.10:

New Flyer software bundle NFR 6.0.17.10 is available for software release. Based on internal BAE Systems testing, analysis and fleet vehicle testing the following vehicle configurations are now approved for New Flyer bundle NFR 6.0.17.10:

- 40' vehicle with APS2, all electric accessories, depot drive enabled, stop/start drive enabled
- 60' vehicle with APS2, all electric accessories, depot drive enabled
- 60' vehicle with APS3, all electric accessories, depot drive enabled

Table 1: BAE Systems NFR 5.3.13.8 and 6.0.17.10 Installations, Covered Under Warranty

Transit Authority	Location	SR#	HDS200 Bus Order	HDS300 Bus Order	SW Version	ASR, Traction Control Enabled
AC Transit	Alameda, CA	SR# 2038		X	5.3.13.8	Yes
Clark County Public Transit Benefit Area (C-TRAN)	Vancouver, WA	SR# 1957		X	6.0.17.10	Yes
King County Metro (KCM)	Seattle, WA	SR# 1968 SR# 1977 SR# 1998		X	5.3.13.8	Yes
		SR# 1760 SR# 1761 SR# 1851	X		5.3.13.8	Yes
Lane Transit District	Eugene, OR	SR# 1930		X	5.3.13.8	Yes
Massachusetts Bay Transit Authority (MBTA)	Boston, MA	SR# 1881 SR# 1902	X		5.3.13.8	Yes
		SR# 1983	X		6.0.17.10	Yes
		SR# 2011 SR# 2046		X	6.0.17.10	Yes
Metro Transit	Minneapolis, MN	SR# 1605	X		5.3.13.8	Yes
Oahu Transit Services (OTS)	Honolulu, HI	SR# 1871		X	5.3.13.8	Yes
Santa Clara Valley Transportation Authority (VTA)	Santa Clara, CA	SR# 1767		X	5.3.13.8	Yes
San Francisco Municipal Transportation Agency (SFMTA)	San Francisco, CA	SR# 1955 SR# 1962		X	5.3.13.8	Yes
		SR# 1709 SR# 1964	X		5.3.13.8	Yes
Urbana Mass Transit (CUMTD)	Champagne, IL	SR# 2032	X		5.3.13.8	Yes



Table 2: Optional NFR 5.3.13.8 and 6.0.17.10 Installations

Transit Authority	Location	SR#	HDS200 Bus Order	HDS300 Bus Order	SW Version	ASR, Traction Control Enabled at New Flyer's Request
Atlantic Station - MARTA	Atlanta, GA	SR# 1461	X		5.3.13.8	No
Maryland Transit Administration (MTA)	Baltimore, MD	SR# 1778	X		5.3.13.8	Yes
DC Circulator	Washington, DC	SR# 1887	X		5.3.13.8	Yes
DC Department of Transportation (DCDOT)	Washington, DC	SR# 1919	X		5.3.13.8	Yes
Columbus Dept. of Transportation, (METRA)	Columbus, GA	SR# 1999	X		5.3.13.8	No
Everett Community Transit	Everett, WA	SR# 1501	X		5.3.13.8	Yes
City of Eau Claire	Eau Claire, WI	SR# 1716	X		5.3.13.8	Yes
GSA Fleet - Veterans Affairs	California	SR# 1829	X		5.3.13.8	No
Montachusett Regional Transit Authority (MRTA)	Fitchburg, MA	SR# 1698	X		5.3.13.8	Yes
Muncie Indiana Transit System (MITS)	Muncie, IN	SR# 1688 SR# 1775 SR# 1883	X		5.3.13.8	Yes
Santa Rosa	Santa Rosa, CA	SR# 1542	X		5.3.13.8	No
Pioneer Valley Transit Authority (PVTa)	Springfield, MA	SR# 1568	X		5.3.13.8	Yes
Washington Metropolitan Area Transit Authority (WMATA)	Washington, DC	SR# 1554	X		5.3.13.8	Yes
University of Massachusetts	Amherst, MA	SR# 1569	X		5.3.13.8	Yes

Conclusion:

BAE Systems requests authorization from New Flyer to proceed with the installation of NFR5.3.13.8 and NFR6.0.17.10 on New Flyer-BAE Systems HybriDrive® systems as detailed in this coordination memo. BAE Systems plans to update the fleets defined in Table 1 as they are covered under a BAE Systems warranty program. (Note: Installation of the BAE Systems software on KCM-Seattle orders SR1760, 1761 and 1851 will be delayed until the Vansco software is available.)

BAE Systems will make 5.3.13.8 available to the fleets in Table 2, that are no longer covered under a BAE Systems warranty, and arrangements for install will be coordinated on a fleet by fleet basis with the transit agencies at their option. If New Flyer requires these fleets be updated as a result of the change to Traction Control, installations by BAE Systems service technicians can be contracted by New Flyer through BAE Systems Customer Service and Support group.

No parts needed, remote software update only

LABOUR ESTIMATE				
	Operation	Men	Hours	Labour Time M X HR
1	BAE Auto Traction Control (ATC) enabling software update	1	1.0	1.0