Multi-Engine Turboprop Communiqué

Communiqué ME-TP-0021
July 2020

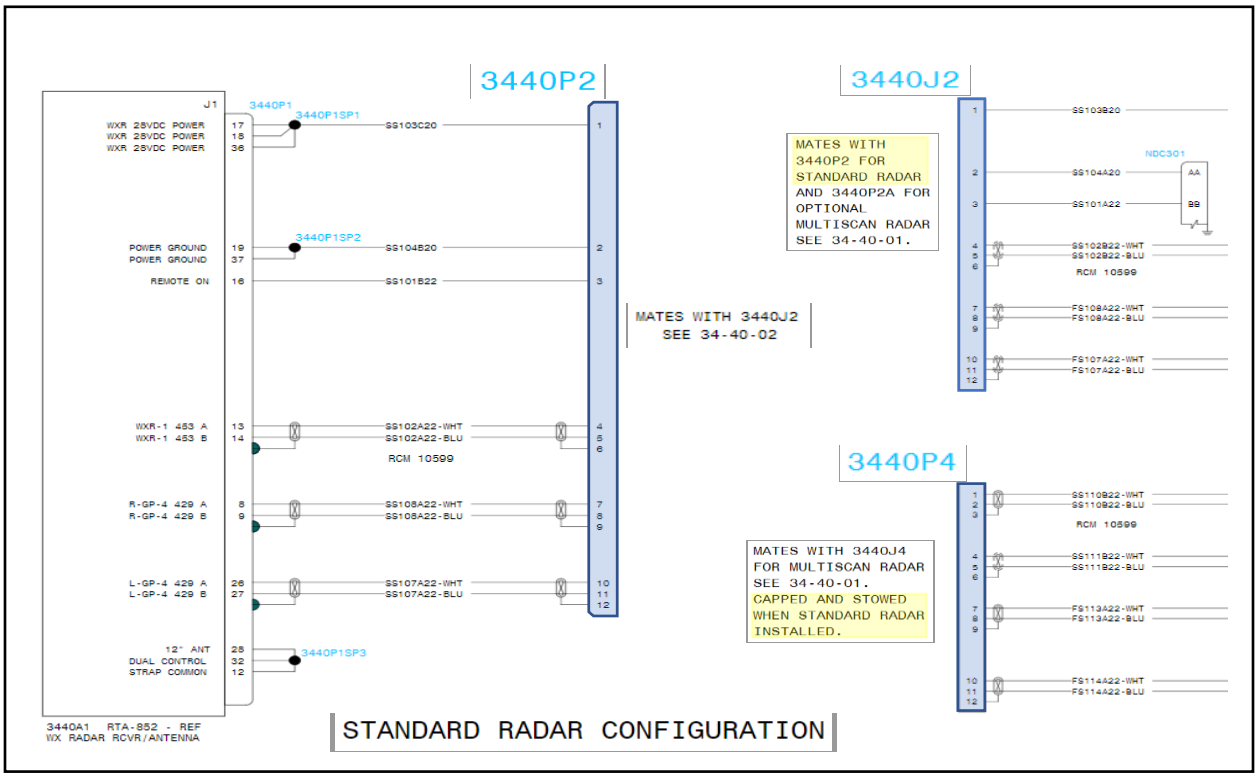
ATA 34 King Air Weather Radar
Effectivity: BY-324 and After, FL-1140 and After, and FM-76 and After

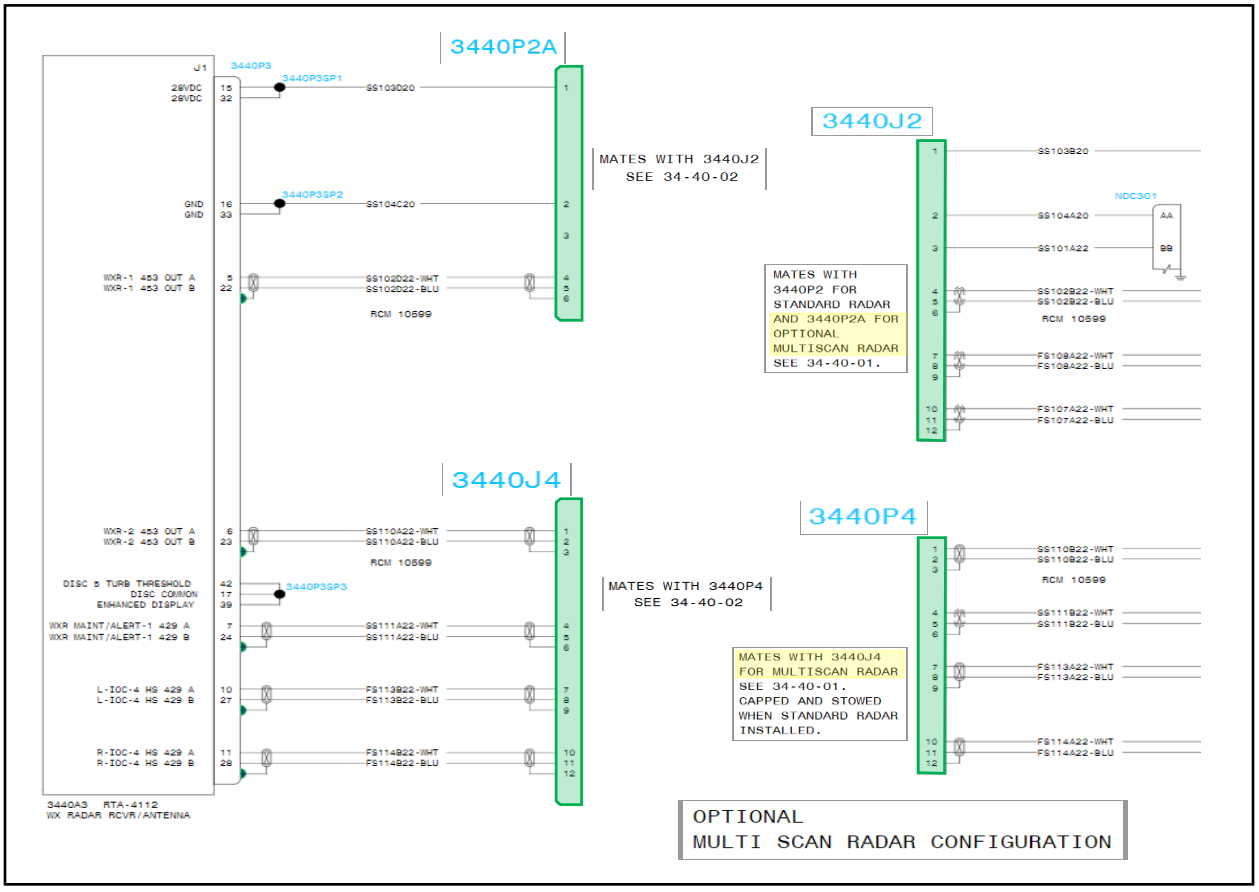
As of 2019, there are two weather radar options available on the King Air 200 series and 300 series: the standard RTA-852 WXR or the optional MultiScan RTA-4112 WXR. The MultiScan Weather Radar combines several radar scans to display an optimized weather picture. While operating, the radar scans automatically and provides additional information such as turbulence detection and ground clutter suppression. Technicians need to be aware of the model and interface differences when troubleshooting or re-installing a weather radar. System data plates are located at the bottom of the base of the radar.

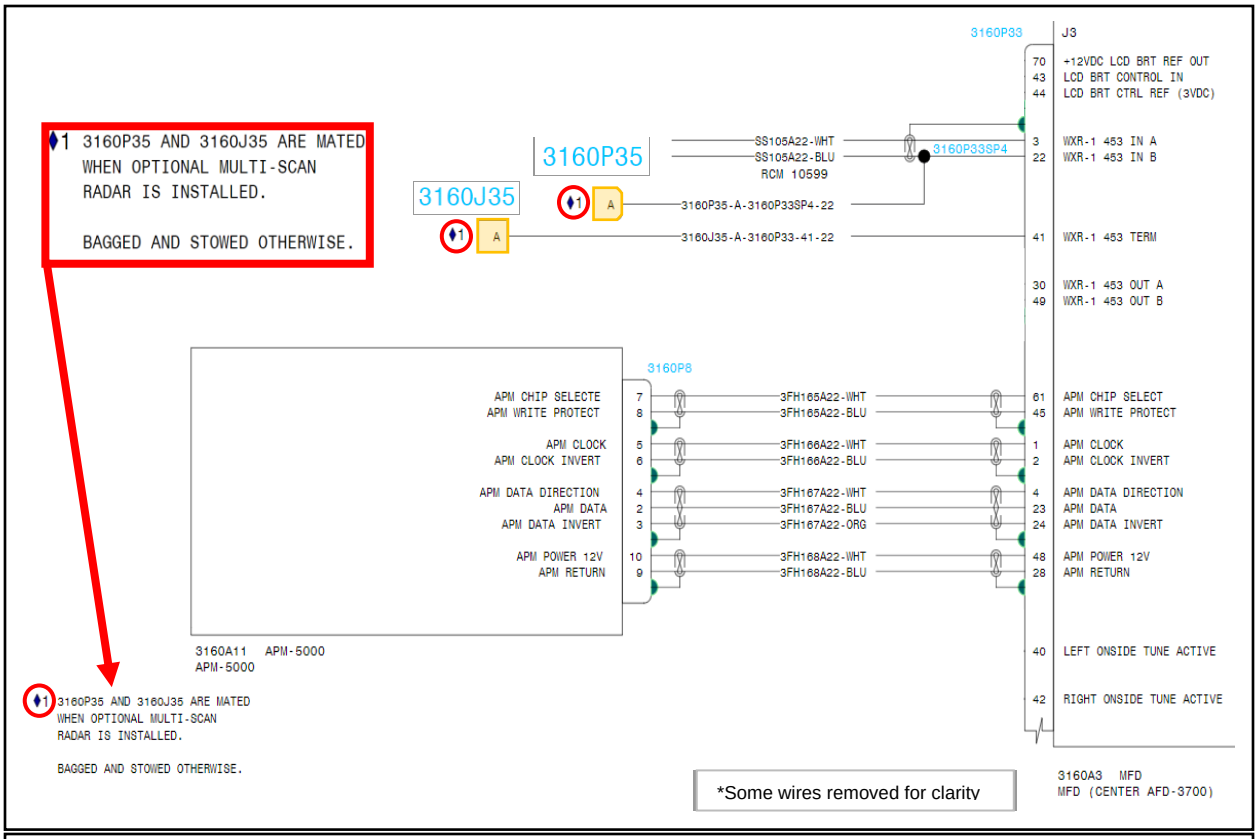
The RTA-582 WXR provides a single output that is daisy-chained to all AFD's. The MultiScan RTA-4112 WXR provides data to each side of the flight deck display system. If the connectors or the wiring for these systems become switched, the system will not function properly. Many of the same receptacles are used throughout the wiring harnesses for both systems. Utilize the notes on the wiring diagrams to verify that the correct connectors are paired. When identifying the connectors and wiring of the system for the weather radar receiver, use 34-40-01 Figure 2 and 34-40-02 Figure 1 of the Wiring Diagram Manual for reference. When identifying the connectors and wiring of the system for the AFD's, use 31-60-02 Figure 5 and 31-60-03 Figure 3 of the Wiring Diagram Manual for reference.

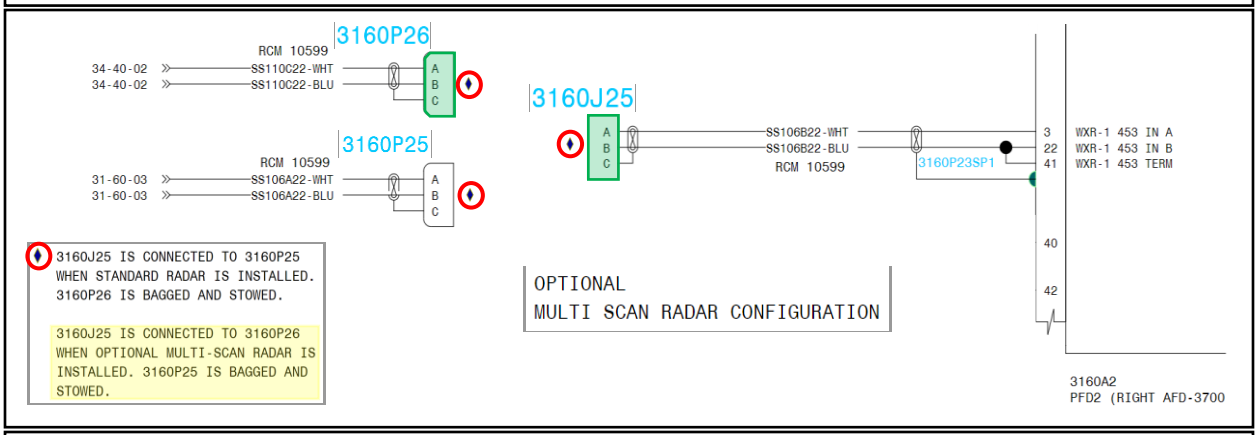
Standard WXR		
Receiver		
3440P2	→	3440J2
3440P4	→	(CAPPED)
Center AFD		
3160P35	→	(CAPPED)
3160J35	→	(CAPPED)
Right AFD		
3160P26	→	(CAPPED)
3160P25	→	3160J25

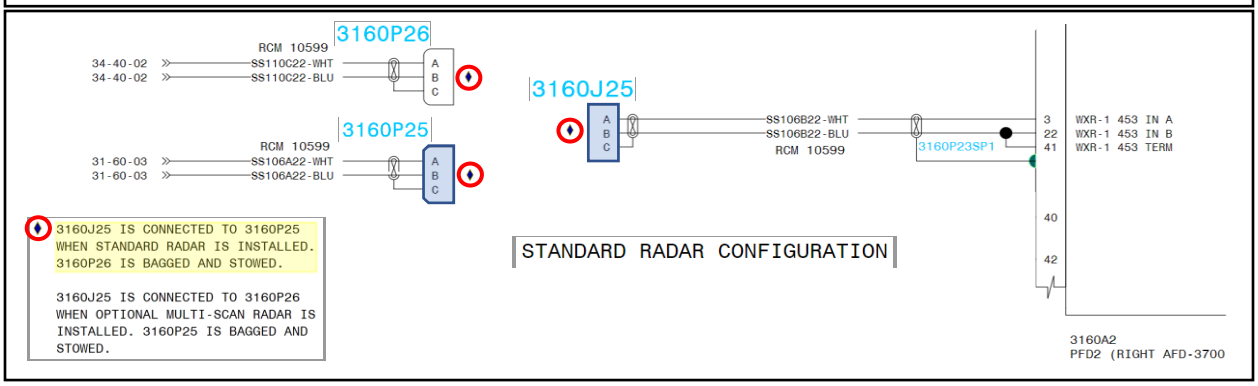
MultiScan WXR		
Receiver		
3440P2A	→	3440J2
3440P4	→	3440J4
Center AFD		
3160P35	→	3160J35
Right AFD		
3160P26	→	3160J25
3160P25	→	(CAPPED)


3440P2
3440J2
3440P4
J1
3440P1
3440P1SP1
WXR 28VDC POWER 17
WXR 28VDC POWER 18
WXR 28VDC POWER 36
SS103C20
POWER GROUND 19
POWER GROUND 37
3440P1SP2
SS104B20
REMOTE ON 16
SS101B22
MATES WITH 3440P2 FOR STANDARD RADAR AND 3440P2A FOR OPTIONAL MULTISCAN RADAR SEE 34-40-01.
MATES WITH 3440J2 SEE 34-40-02
SS103B20
NDC301
SS104A20
SS101A22
SS102B22-WHT
SS102B22-BLU
RCM 10599
FS108A22-WHT
FS108A22-BLU
FS107A22-WHT
FS107A22-BLU
WXR-1 453 A 13
WXR-1 453 B 14
SS102A22-WHT
SS102A22-BLU
RCM 10599
R-GP-4 429 A 8
R-GP-4 429 B 9
SS108A22-WHT
SS108A22-BLU
L-GP-4 429 A 26
L-GP-4 429 B 27
SS107A22-WHT
SS107A22-BLU
MATES WITH 3440J4 FOR MULTISCAN RADAR SEE 34-40-01. CAPPED AND STOWED WHEN STANDARD RADAR INSTALLED.
SS110B22-WHT
SS110B22-BLU
RCM 10599
SS111B22-WHT
SS111B22-BLU
FS113A22-WHT
FS113A22-BLU
FS114A22-WHT
FS114A22-BLU
12" ANT 28
DUAL CONTROL 32
STRAP COMMON 12
3440P1SP3
3440A1 RTA-852 - REF
WX RADAR RCVR/ANTENNA
STANDARD RADAR CONFIGURATION


3440P2A
3440J2
3440J4
3440P4
J1
3440P3
3440P3SP1
28VDC 15
28VDC 32
SS103D20
GND 16
GND 33
3440P3SP2
SS104C20
WXR-1 453 OUT A 5
WXR-1 453 OUT B 22
SS102D22-WHT
SS102D22-BLU
RCM 10599
MATES WITH 3440J2 SEE 34-40-02
SS103B20
NDC301
SS104A20
SS101A22
SS102B22-WHT
SS102B22-BLU
RCM 10599
MATES WITH 3440P2 FOR STANDARD RADAR AND 3440P2A FOR OPTIONAL MULTISCAN RADAR SEE 34-40-01.
FS108A22-WHT
FS108A22-BLU
FS107A22-WHT
FS107A22-BLU
WXR-2 453 OUT A 6
WXR-2 453 OUT B 23
SS110A22-WHT
SS110A22-BLU
RCM 10599
DISC 5 TURB THRESHOLD 42
DISC COMMON 17
ENHANCED DISPLAY 39
3440P3SP3
WXR MAINT/ALERT-1 429 A 7
WXR MAINT/ALERT-1 429 B 24
SS111A22-WHT
SS111A22-BLU
L-IOC-4 HS 429 A 10
L-IOC-4 HS 429 B 27
FS113B22-WHT
FS113B22-BLU
R-IOC-4 HS 429 A 11
R-IOC-4 HS 429 B 28
FS114B22-WHT
FS114B22-BLU
MATES WITH 3440P4 SEE 34-40-02
SS110B22-WHT
SS110B22-BLU
RCM 10599
SS111B22-WHT
SS111B22-BLU
FS113A22-WHT
FS113A22-BLU
MATES WITH 3440J4 FOR MULTISCAN RADAR SEE 34-40-01. CAPPED AND STOWED WHEN STANDARD RADAR INSTALLED.
FS114A22-WHT
FS114A22-BLU
3440A3 RTA-4112
WX RADAR RCVR/ANTENNA
OPTIONAL
MULTI SCAN RADAR CONFIGURATION


1 3160P35 AND 3160J35 ARE MATED WHEN OPTIONAL MULTI-SCAN RADAR IS INSTALLED.
BAGGED AND STOWED OTHERWISE.
3160P35
3160J35
3160P33
J3
70 +12VDC LCD BRT REF OUT
43 LCD BRT CONTROL IN
44 LCD BRT CTRL REF (3VDC)
3160P33SP4
SS105A22-WHT
SS105A22-BLU
RCM 10599
3 WXR-1 453 IN A
22 WXR-1 453 IN B
3160P35-A-3160P33SP4-22
3160J35-A-3160P33-41-22
41 WXR-1 453 TERM
30 WXR-1 453 OUT A
49 WXR-1 453 OUT B
3160P8
APM CHIP SELECTE
APM WRITE PROTECT
APM CLOCK
APM CLOCK INVERT
APM DATA DIRECTION
APM DATA
APM DATA INVERT
APM POWER 12V
APM RETURN
3FH165A22-WHT
3FH165A22-BLU
3FH166A22-WHT
3FH166A22-BLU
3FH167A22-WHT
3FH167A22-BLU
3FH167A22-ORG
3FH168A22-WHT
3FH168A22-BLU
61 APM CHIP SELECT
45 APM WRITE PROTECT
1 APM CLOCK
2 APM CLOCK INVERT
4 APM DATA DIRECTION
23 APM DATA
24 APM DATA INVERT
48 APM POWER 12V
28 APM RETURN
40 LEFT ONSIDE TUNE ACTIVE
42 RIGHT ONSIDE TUNE ACTIVE
3160A11 APM-5000
APM-5000
1 3160P35 AND 3160J35 ARE MATED WHEN OPTIONAL MULTI-SCAN RADAR IS INSTALLED.
BAGGED AND STOWED OTHERWISE.
*Some wires removed for clarity
3160A3 MFD
MFD (CENTER AFD-3700)


3160P26
RCM 10599
34-40-02
34-40-02
SS110C22-WHT
SS110C22-BLU
3160P25
31-60-03
31-60-03
SS106A22-WHT
SS106A22-BLU
3160J25
SS106B22-WHT
SS106B22-BLU
3160P23SP1
3 WXR-1 453 IN A
22 WXR-1 453 IN B
41 WXR-1 453 TERM
40
42
1 3160J25 IS CONNECTED TO 3160P25 WHEN STANDARD RADAR IS INSTALLED. 3160P26 IS BAGGED AND STOWED.
3160J25 IS CONNECTED TO 3160P26 WHEN OPTIONAL MULTI-SCAN RADAR IS INSTALLED. 3160P25 IS BAGGED AND STOWED.
OPTIONAL
MULTI SCAN RADAR CONFIGURATION
3160A2
PFD2 (RIGHT AFD-3700


3160P26
RCM 10599
34-40-02
34-40-02
SS110C22-WHT
SS110C22-BLU
3160P25
31-60-03
31-60-03
SS106A22-WHT
SS106A22-BLU
3160J25
SS106B22-WHT
SS106B22-BLU
3160P23SP1
3 WXR-1 453 IN A
22 WXR-1 453 IN B
41 WXR-1 453 TERM
40
42
1 3160J25 IS CONNECTED TO 3160P25 WHEN STANDARD RADAR IS INSTALLED. 3160P26 IS BAGGED AND STOWED.
3160J25 IS CONNECTED TO 3160P26 WHEN OPTIONAL MULTI-SCAN RADAR IS INSTALLED. 3160P25 IS BAGGED AND STOWED.
STANDARD RADAR CONFIGURATION
3160A2
PFD2 (RIGHT AFD-3700

ATA 34 King Air Weather Radar SB8
Effectivity: BY-324 and After, FL-1140 and After, and FM-76 and After

Communiqué ME-TP-0016 described potential for the RTA-4112 weather radar to lock up and display an error message after 300 flight legs without a manual reset. This is due to non-volatile memory (NVM) capacity management.

Collins has released Service Bulletin RTA-41XX-34-8 Digital Signal Processor (DSP) Communication (COM) Fault Reliability Improvement to prevent faults caused by non-volatile memory re-writes.

Previously, Collins released information document (IDOC) 0168-19 titled Information and Usage of the RTA-41XX NVM Erasure Tool. The IDOC contains procedures and lists equipment to allow the NVM to be cleared in the field prior to it reaching this limit.

To ensure ongoing operation of the RTA-4112, Textron Aviation recommends that operators with this radar either clear the NVM during routine inspections using the procedures in IDOC 0168-19 or incorporate SB RTA-41XX-34-8 so that resets will no longer be necessary.

The RTA-4112 was installed in production as standard equipment beginning at FL-1161 and was a factory option on BY-324 and after. Any Phase 3 B200GT, B200CGT, B300, B300C aircraft could have also had the radar installed post-delivery.