Category	Subcategory	317 MOPS Req'ts	289 MASPS Req'ts	3xx MASPS Req't Recommendation	Notes	
Input Requirements	Traffic ADS-B/ADS-R/TIS-B Data	The ASSAP function **shall** (2000) receive the Time(s) of Applicability (TOA) of the received traffic state data from the ADS‑B/ADS‑R/TIS‑B Receiver.	ASSAP provides the central processing for ASA and interfaces with many other avionics subsystems. Table 3 18 indicates the required data interfaces to ASSAP. All data indicated by a dot (•) **shall** (289R3.213) be provided to the ASSAP function, with the exception of those items labeled "future."	All data indicated by a "R" in table 3-x **shall** (289R3.213) be provided to the ASSAP function. ** OR SHOULD THIS BE UPLEVELED The ASSAP function shall be provided all data elements required to for the function of any active application as defined in the MOPS, the current version of DO-317().	Need to confirm the table and change dot to R.	
		The ASSAP function **shall** (2001) receive the Horizontal Position latitude/longitude from the ADS‑B/ADS‑R/TIS‑B receiver.				
		The ASSAP function **shall** (2012) receive the 24 bit Address from the ADS B/ADS R/TIS B receiver.				
		The ASSAP function **shall** (2002) receive the Ground Speed from the ADS‑B/TIS‑B receiver when available.		All data indicated by a RiA in table 3-x **shall** (289R3.213a) be provided to the ASSAP function if available. **SEE OPTION TO 289R3.213	Need to confirm the table and change dot to RiA, also will need to add notes or some indication of the conditional requirements, such as "If CDTI uses L/W…."	
		The ASSAP function **shall** (2003) receive the Heading (i.e., true or magnetic heading) or Ground Track for surface vehicles from the ADS‑B/ADS‑R/TIS‑B receiver when available.				
		The ASSAP function **shall** (2004) receive N/S and E/W velocities from airborne reporting traffic from the ADS‑B/ADS‑R/TIS‑B receiver when available.				
		The ASSAP function **shall** (2005) receive the Pressure Altitude from the ADS‑B/ADS‑R/TIS‑B receiver when available.				
		The ASSAP function **shall** (2006) receive the Geometric Altitude from the ADS‑B/ADS‑R/TIS‑B receiver when available.				
		The ASSAP function **shall** (2007) receive the Vertical Rate from the ADS‑B/ADS‑R/TIS‑B receiver when available.				
		The ASSAP function **shall** (2008) receive the Vertical Rate Type (i.e., Geometric or Barometric) from the ADS‑B/ADS‑R/TIS‑B receiver when vertical rate is available.				
		The ASSAP function **shall** (2009) receive the NIC from the ADS‑B/ADS‑R/TIS‑B receiver when available.				
		The ASSAP function **shall** (2010) receive the Air/Ground State from the ADS‑B/ADS‑R/TIS‑B receiver when available.				
		The ASSAP function **shall** (2011) receive the Flight ID (up to 8 alphanumeric characters in length) from the ADS B/ADS R/TIS B receiver when available.				
		The ASSAP function **shall** (2013) receive the Address Qualifier (indicating whether the 24 bit Address is a 24-bit ICAO address or another kind of address) from the ADS B/ADS R/TIS B receiver when available.				
		The ASSAP function **shall** (2014) receive the Emitter Category (e.g., light, small aircraft, rotorcraft, etc.) from the ADS B/ADS R/TIS B receiver when available.				
		If the CDTI uses Length/Width code, the ASSAP function **shall** (2015) receive the A/V Length and Width Code from the ADS B/ADS R/TIS B receiver when available.				
		The ASSAP function **shall** (2016) receive the Navigational Accuracy Category for Position (NACP) from the ADS B/ADS R/TIS B receiver when available.				
		The ASSAP function **shall** (2017) receive the Navigational Accuracy Category for Velocity (NACV) from the ADS B/ADS R/TIS B receiver when available.				
		The ASSAP function **shall** (2018) receive the SIL from the ADS B/ADS R/TIS B receiver when available.				
		The ASSAP function **shall** (2020) receive the link version number from the ADS B/ADS R/TIS B receiver when available.				
		If the CDTI uses the Emergency/Priority Status, the ASSAP function **shall** (2019) receive the Emergency/Priority Status from the ADS B/ADS R/TIS B receiver when available.	None			
		The ASSAP function **shall** (TBD) receive the System Design Assurance (SDA) from the ADS-B/ADS-R/TIS-B receiver when available.	None			
		The ASSAP function **shall** (2500) receive the TIS-B/ADS-R Service Status message from the ADS-B/ADS-R/TIS-B Receiver when available.	None			
	Traffic TCAS General	The ASSAP function **shall** (2021) be capable of receiving a traffic capacity of at least 30 tracks from TCAS.	None			
	Traffic TCAS Data	The ASSAP function **shall** (2022) receive the TCAS Track ID from TCAS when available.	Ref (289R3.213)	Ref (289R3.213a)		
		The ASSAP function **shall** (2023) receive the Traffic 24 bit Address from TCAS when available.				
		The ASSAP function **shall** (2024) receive the Traffic Range from TCAS when available.				
		The ASSAP function **shall** (2025) receive the Traffic Bearing from TCAS when available.				
		The ASSAP function **shall** (2026) receive the Traffic Pressure Altitude from TCAS when available.				
		The ASSAP function **shall** (2027) receive the Traffic Pressure Altitude Rate from TCAS when available.				
		None	For initial ASA applications, TCAS data is needed specifically to support configurations with integrated ASA / TCAS traffic displays. For these configurations, the data items in the following subparagraphs **shall** (289R3.214) be provided to ASSAP for each TCAS track that is to be displayed.			
		The ASSAP function **shall** (2028) receive the Traffic TCAS Alert Status (i.e., no threat, proximity traffic, traffic advisory, resolution advisory) from TCAS when available.	The RA Active flag indicates that a TCAS Resolution Advisory is currently in progress for the track; ASSAP **shall** (289R3.215) accept an RA active flag from the TCAS equipment.			
			The TA active flag indicates that a Traffic Advisory is currently in progress for the track; ASSAP **shall** (289R3.216) accept a TA active flag from the TCAS equipment.			
			Ref (289R3.213)			
		The ASSAP function **shall** (2029) receive the Traffic TCAS Vertical Sense from TCAS when available.	None		Add to table	
	Ownship General	The ASSAP function **shall** (2030) use the same data source for all of the ownship parameters: horizontal position, geometric vertical position (height above ellipsoid), horizontal velocity, and geometric altitude rate which includes latitude, longitude, horizontal accuracy data (e.g., HFOM, Estimated Position Uncertainty (EPU)), horizontal integrity data (e.g., HIL/RNP/ANP), geometric altitude (height above ellipsoid), N/S velocity, E/W velocity, and geometric altitude rate. Mixing of data (e.g., use latitude from Global Navigation Satellite System (GNSS) and longitude from FMS) is prohibited between the possible input data sources.	None			
		If the horizontal position data from a position source is not valid, then no data from that source **shall** (2031) be accepted.	None			
		The ASSAP function **shall** (2032) receive the TOA of the received ownship state data from the ownship position sources.	Ref (289R3.213)	Ref (289R3.213)		
		The ASSAP function **shall** (2033) receive the Horizontal Position based on latitude/longitude from the ownship position sources.			Masps did not require lat / lon	
		The ASSAP function **shall** (2037) receive the Pressure Altitude from the same source as that used by the transponder for transmission.			Masps did not require same source as xpndr	
		If the CDTI uses ActualCorrected Altitude, the ASSAP function **shall** (2044) receive the ownship barometric correction.	None		Mops says "If the CDTI uses…"	
		For the ASSA/FAROA application, and on TCAS-equipped systems not supporting the inter-source correlation of TCAS track with airborne TIS‑B tracks, the ASSAP function **shall** (2045) receive the ownship Air/Ground State.	None		Mops says for ASSA/FAROA, and on TCAS-equipped system not supporting…	

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	Ownship NAV Data	The ASSAP function **shall** (2034) receive the N/S E/W Velocity from the ownship position sources when available.	Ref (289R3.213)	Ref (289R3.213a)		
		For the ASSA and FAROA applications, the ASSAP function **shall** (2036) receive the Ground Speed from the ownship position sources when available.			MASPS only specifiec ground speed "on surface" & if available.	
		The ASSAP function **shall** (2038) receive the Geometric Altitude from the ownship position sources when available.				
		The ASSAP function **shall** 2039) receive the Pressure Altitude Rate from the same ownship source that is providing Pressure Altitude when available.			Masps did not require same sourcs as pressure alt	
		The ASSAP function **shall** (2040) receive the Geometric Altitude Rate from the ownship position sources when available.				
		The ASSAP function **shall** (2041) receive the Heading when on Surface (i.e., true or magnetic heading) from an ownship source when available.				
		[ownship] The ASSAP function **shall** (2046) receive the Horizontal Position Uncertainty when available.				
		[ownship] The ASSAP function **shall** (2047) receive the Vertical Position Uncertainty when available.				
		[ownship] The ASSAP function **shall** (2048) receive the Horizontal Velocity Uncertainty when available.				
		[ownship] The ASSAP function **shall** (2049) receive the Vertical Velocity Uncertainty when available.			Is this still available?	
		[ownship] If ASSAP uses Vertical Position Integrity, the ASSAP function **shall** (2051) receive the Vertical Position Integrity Containment Region when available.			Mops says "If ASSAP uses…"	
		[ownship] The ASSAP function **shall** (2052) receive the Surveillance Integrity Level when available.				
		[ownship] The ASSAP function **shall** (2050) receive the Horizontal Position Integrity Containment Region when available.	Ref (289R3.213) & [ownship requirement] An integrity containment radius for position and associated no-alarm probability are assumed to be available from the navigation system. A 95% accuracy bound on both position and velocity are also assumed to be available. ASSAP shall (289R3.217) provision for the acceptance of these parameters.		Maps to 2 mops requirements, One is a shall	
		The ASSAP function **shall** (2035) receive the True Track Angle from the ownship position sources when available.	None			
		The ASSAP function **shall** (2042) receive the 24 bit Address from the ownship sources when available.	None			
		If the CDTI uses Length/Width code, the ASSAP function **shall** (2043) receive the A/V Length and Width Code from ownship sources when available.	None		Mops says "If the CDTI uses L/W code"	
		If ASSAP supports ASSA/FAROA, the ASSAP function **shall** (2053) receive an indication of surface map availability.	None		Mops says "If ASSAP supports ASSA/FAROA…"	
	From CDTI	The ASSAP function **shall** (2054) be capable of receiving and processing the CDTI outputs to ASSAP as defined in Section 2.3.2.4 Outputs from CDTI to ASSAP. **Ref the following requirements:** If the capability for application selection exists within the CDTI, the CDTI shall (3016) output the application selection status of each selectable application to ASSAP. If the flight crew has the ability to choose traffic to couple, the CDTI shall (3017) output to ASSAP the Track ID of the traffic being coupled, and an identifier for the associated application. If the flight crew has the ability to select traffic, the CDTI shall (3018) output the selected traffic Track ID(s) to ASSAP. In installations supporting the CD application, if Domain is manually selectable, the CDTI shall (3019) output the flight crew selection of Domain to ASSAP. In installations supporting the CD application, the CDTI shall (3020) output the flight crew selection of ANSD parameters to ASSAP.	Ref (289R3.213)	Ref (289R3.213a)	Low level alert selection is listed in masps but not requiired in mops. Fix the table accordinly	
		The ASSAP function **shall** (2057) provide a traffic capacity of at least 60 tracks to the CDTI.	None			
		The ASSAP function **shall** (2058) provide the highest priority tracks to the CDTI based on the following priority: 1. CD Warning Level Alerts (if implemented). 2. CD Caution Level Alerts (if implemented). 3. CD Advisory Level Alerts (if implemented). 4. Coupled Traffic. 5. Selected Traffic. 6. Other Traffic.	None			
		For TCAS/ASAS integrated systems, the ASSAP function **shall** (2059) provide the highest priority tracks to the CDTI based on the following priority: 1. Resolution Advisory. 2. Traffic Advisory. 3. Airborne Proximate Traffic (when TCAS alerts are present). 4. Coupled Traffic. 5. Selected Traffic. 6. Airborne Proximate Traffic (when no TCAS alerts are present). 7. Other Traffic	None			
		The TCAS Proximate Traffic prioritization scheme **shall** (2060) be applied to the integrated group of TCAS and ASAS airborne Proximate Traffic. Thus it is possible for an ASAS Only Proximate Traffic to be a higher priority than a TCAS Proximate Traffic.	None			
		The ASSAP function **shall** (2108) provide the ASA Application Status for each installed application to the CDTI.	Supported application **shall** (289R3.192) indicate any optional applications that are being processed for the track (i.e., CD, ASSA, FAROA).			
		The ASA Application Status **shall** (2109) include that each ASA Application is in one of the following five states: On, Available to Run, Unavailable to Run, Unavailable – Fault, or Not Configured.	None			
		An ASSAP Fault **shall** (2110) be provided to the CDTI per the fault requirements in Section 2.2.5 Monitoring.	None			
		The ASSAP **shall** (2200) output the TIS-B/ADS-R Service Status to the CDTI.	None			
		If a TIS-B/ADS-R Service Status message has been received within the previous 40 seconds with the ownship's 24-bit address and an in-service bit the ASSAP **shall** (2202) provide an indication to the CDTI that the aircraft is within TIS-B/ADS-R coverage.	None			
		Otherwise the ASSAP **shall** (2203) indicate to the CDTI that the aircraft is not within TIS-B/ADS-R coverage or the traffic picture is incomplete.	None			
		None	ASSAP **shall** (289R3.186) provide current traffic state position information to the interface with the CDTI with at least a 1 Hz rate.			
		None	ASSAP **shall** (289R3.187) make ASSAP track reports available to the CDTI for all active applications.			

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Data Output Requirements	General to CDTI	None	ASA Category **shall** (289R3.206) be forwarded to the CDTI.			
		None	The ASSAP subsystem **shall** (289R3.286) be capable of providing, and the CDTI subsystem *shall* (289R3.285b) be capable of accepting from the ASSAP subsystem, an indication of the quality of the directionality information provided for traffic to be displayed.			
		None	The ASSAP subsystem shall (289R3.286) be capable of providing, and the CDTI subsystem *shall* (289R3.285b) be capable of accepting from the ASSAP subsystem, an indication of the quality of the directionality information provided for traffic to be displayed. This indication **shall** (289R3.287) provide for at least three conditions, as follows: a. Traffic directionality information is fully usable, or ~~b. Traffic directionality information is degraded, or~~ c. Traffic directionality information is invalid.			
		None	The ASSAP subsystem shall (289R3.288) provide to the CDTI, and the CDTI subsystem *shall* (289R3.287b) accept from the ASSAP subsystem, an indication of the usability of information about displayed traffic for the currently selected ASSAP application or applications. This indication **shall** (289R3.289) provide for at least three conditions, as follows: a. Traffic information is fully usable for the application, or ~~b. Traffic information is degraded, but can be used for the application, or~~ c. Traffic information is of insufficient quality to support the application.			
		None	The ASSAP subsystem **shall** (289R3.290) provide to the CDTI, and the CDTI subsystem *shall* (289R3.289b) accept from the ASSAP subsystem, for traffic to be displayed, an indication of whether or not that traffic is suitable for use with the coupled applications supported by that CDTI installation.			
		None	Alerts **shall** (289R3.291) be provided to the CDTI with an appropriate indication of the associated ASSAP track, that is, of the associated traffic to which the alert refers.			
			Latency for the combination of ASSAP and the CDTI (interface E to interface G in Figure 2 7) **shall** (289R3.210) be less than 400 ms for targets that are used by coupled applications, targets against which there is an alert, and the 10 highest priority targets.			
			For all other targets, data latency **shall** (289R3.211) be less than 1 second.			
	Traffic Data To CDTI	The ASSAP function **shall** (2055) provide validation status information (e.g., valid/invalid flags) for each data element provided to the CDTI.	None			
		The following subsections contain traffic information output requirements from the ASSAP function to the CDTI. Output data **shall** (2056) be calculated and updated at least once per second.	ASSAP **shall** (289R3.188) deliver track reports to the CDTI for all aircraft of sufficient quality for at least enhanced visual acquisition, extrapolated to a common time that is within 1 second of the time the data is delivered to the CDTI, with at least a 1 Hz rate.			
		The ASSAP function **shall** (2061) provide a Track ID for traffic sent to the CDTI.	The ASSAP subsystem **shall** (289R3.272) provide to the CDTI, and the CDTI subsystem *shall* (289R3.271b) accept from the ASSAP subsystem, a unique ASSAP track ID for traffic to be displayed.			
		The ASSAP function **shall** (2067) provide Traffic Horizontal Position for traffic sent to the CDTI.	The ASSAP subsystem **shall** (289R3.276) provide to the CDTI subsystem, and the CDTI subsystem *shall* (289R3.275b) accept from the ASSAP subsystem, the horizontal positions of traffic to be displayed.			
		Traffic Horizontal Position **shall** (2068) be provided [to CDTI] as either latitude/longitude or relative range and bearing referenced from ownship position.				
		The ASSAP function **shall** (2088) provide a Traffic Air/Ground Status for traffic sent to the CDTI.	None			
		The ASSAP function **shall** (2090) provide a Traffic Application Capability for traffic sent to the CDTI.	None			
		Below is req'd when available				
		For installations supporting EVApp and/or traffic selection, the ASSAP function **shall** (2064) provide a Flight ID for traffic sent to the CDTI when available.	Call Sign / Flight ID **shall** (289R3.205) be provided to the CDTI in the ASSAP/CDTI report (Table 3 16).		Mops says "when available", does this mean req'd for all other time, or not req'd other times.	
		For installations supporting selected traffic, and those that support distinguishing surface traffic, the ASSAP function shall (2065) provide a Traffic Category for traffic sent to the CDTI when available.	Any CDTI installation that supports the Intermediate or Advanced ASA Capability Level, the ASSAP subsystem **shall** (289R3.274), and basic CDTI installations should, be capable of providing, and the CDTI subsystem *shall* (289R3.273b) be capable of accepting from the ASSAP subsystem, the traffic category for traffic to be displayed.		Emitter category	
		If the CDTI uses Traffic Length/Width codes, the ASSAP function **shall** (2066) provide Traffic Length/Width Codes for traffic sent to the CDTI when available.	A/V length and width codes **shall** (289R3.207) be forwarded to the CDTI. & In any CDTI installation that supports the ASSA or FAROA application, the ASSAP subsystem shall (289R3.275) be capable of providing, and the CDTI subsystem **shall** (289R3.274b) be capable of accepting from the ASSAP subsystem, the A/V Length/Width Codes for traffic on the airport surface.			
		For the installations supporting selected traffic, the ASSAP function **shall** (2070) provide Traffic Ground Speed for traffic sent to the CDTI when available.	In installations that support the Intermediate and above ASA Capability Levels, the ASSAP subsystem **shall** (289R3.278) be capable of providing, and the CDTI subsystem shall (289R3.277b) be capable of accepting from the ASSAP subsystem, horizontal velocity information about traffic to be displayed. In such installations, the ASSAP subsystem **shall** (289R3.279) provide the CDTI subsystem with horizontal velocity information all traffic for which it has that information.		Have to figure out how to make word for ground speed.	
		If the CDTI uses Traffic Closure Rate or Differential Ground Speed, the ASSAP function **shall** (2071) provide Traffic Closure Rate or Differential Ground Speed for the coupled traffic sent to the CDTI when available.	The selected target closure rate **shall** (289R3.194) indicate the radial line of sight closure rate between own-ship and the selected target. (also used in functional req't)		Reword masps req't to send to CDTI. Masps req't also used for functional req't 2072.	
		The ASSAP function **shall** (2073) provide Traffic Altitude for airborne traffic sent to the CDTI when available. & Traffic Altitude **shall** (2074) be provided as either actual pressure altitude or altitude relative to ownship altitude.	The ASSAP subsystem **shall** (289R3.281) be capable of providing, and the CDTI subsystem *shall* (289R3.280b) be capable of accepting from the ASSAP subsystem, pressure altitude information about airborne traffic to be displayed.		Make 2 from 2	
			The ASSAP subsystem **shall** (289R3.283) be capable of providing, and the CDTI subsystem *shall* (289R3.282b) be capable of accepting from the ASSAP subsystem, geometric altitude information about airborne traffic to be displayed.		Make 2 from 2	

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		The ASSAP function **shall** (2078) provide Traffic Track Angle/Heading for traffic sent to the CDTI when available.	The ASSAP subsystem ***shall*** (289R3.284) be capable of providing, and the CDTI subsystem *shall* (R3.283b) be capable of accepting from the ASSAP subsystem, information about the directionality of traffic to be displayed. For traffic, this directionality information **shall** (289R3.285) include: a. The traffic's ground track angle or its heading, b. An indication of which of the two kinds of directionality information is being provided for that traffic, and c. If the traffic heading is provided, whether that heading is referenced to true north or to magnetic north.			
		[If traffic track angle is provided to CDTI] Traffic Track Angle **shall** (2079) be provided [to CDTI] as true track angle.	None			
		For traffic reporting in airborne status, the following requirements apply: 1) The Traffic Track Angle [provided to CDTI] **shall** (2080) be determined based upon the traffic reported N/S and E/W velocities when available and valid.	None			
		2) The traffic track angle shall (2081) be considered invalid when the traffic track angle uncertainty (95%) is greater than +/- 30 degrees based on NACv and ground speed. See Table 2-1 below for guidance in establishing the +/- 30 degree uncertainty limit.	None			
		For traffic reporting in On Ground status, the Traffic Track Angle/Heading **shall** (2082) be determined based upon the Traffic Track Angle or Heading in the last report, when available and valid.	None			
		Else, the Traffic Track Angle/Heading **shall** (2083) be set invalid for surface traffic. When Track Angle is used, see Table 2-1 below for guidance in establishing the +/- 30 degree uncertainty limit.	None			
		If the CD application is implemented, the ASSAP function **shall** (2093) provide Traffic Collision Avoidance Zone (CAZ) and Conflict Detection Zone (CDZ) alerts (see DO-289) for traffic sent to the CDTI when available.	For each track that is eligible for CD, CAZ alerts or CDZ alerts **shall** (289R3.201) be issued as appropriate.			
			For this version of the ASA MASPS, CAZ and CDZ alerts **shall** (289R3.292) be issued [to the CDTI] as required by ASSAP if the optional CD application is implemented.	Req't in CDTI section, Delete, application no longer in MOPS		
		If the CDTI uses the Emergency/Priority Status, the ASSAP function **shall** (2095) provide the Emergency/Priority Status for traffic sent to the CDTI when available.	Emergency / priority status **shall** (289R3.208) be forwarded to the CDTI.			
		If the CDTI uses Traffic Geometric Altitude, the ASSAP function **shall** (2075) provide Traffic relative Geometric Altitude for traffic sent to the CDTI when available.	None			
		[If Traffic Geometric Altitude is sent to the CDTI] Traffic Geometric Altitude **shall** (2076) be provided [to CDTI] as Height above Ellipsoid (HAE) geometric altitude.			Not stated in req't but is "if available" based on 2075	
		HAE **shall** (2077) be referenced to WGS-84 reference datum.				
		The ASSAP function **shall** (2084) provide a Traffic Vertical Direction for airborne traffic sent to the CDTI when available.	None			
		Traffic Vertical Direction **shall** (2085) be provided as either actual traffic vertical rate or as traffic vertical sense (an indication whether the traffic vertical direction is climbing, descending, or level).	None			
		If the traffic vertical sense is calculated by ASSAP a climb **shall** (2086) be indicated when there is a positive vertical rate greater than or equal to 500 feet per minute (fpm);	None			
		a descent **shall** (2087) be indicated when there is a negative vertical rate exceeding 500 fpm.	None			
	TCAS Traffic Data to CDTI	For systems that receive information from TCAS, the ASSAP function **shall** (2089) provide a Traffic TCAS Correlated Status for traffic sent to the CDTI.	None			
		For traffic sources (i.e., ADS-B, ADS-R, or TIS-B tracks) that are correlated with TCAS tracks and TCAS only tracks, the ASSAP function **shall** (2094) provide the Traffic TCAS Alert Status (i.e., Other, Proximate, Traffic Advisory, Resolution Advisory) for the traffic sent to the CDTI when available.	None			
		The ASSAP function **shall** (2096) provide the Ownship Horizontal Position in WGS-84 latitude/longitude to the CDTI. //Assumed to be in 3.4.1	None			
		For the CD and EVApp application and installations supporting selected traffic, the ASSAP function **shall** (2099) provide the Ownship Ground Speed to the CDTI.	None			
		The ASSAP function may provide Ownship track angle to the CDTI. If ASSAP provides ownship track angle to the CDTI, the track angle provided **shall** (2101) meet the following requirements:				
		Ownship Track Angle **shall** (2102) be provided as true track angle.				
		When ownship track angle is to be used to orient the display, Ownship Track Angle **shall** (2103) be considered invalid when the ownship track angle uncertainty (95%) is greater than +/-5 degrees.	None			
		When ownship track angle is to be used to orient the ownship symbol, the Ownship Track Angle **shall** (2104) be considered invalid when the ownship track angle uncertainty (95%) is greater than +/- 30 degrees.				
		The ASSAP function **shall** (2105) provide the Ownship Pressure Altitude to the CDTI.	None			
		If the CDTI uses ActualCorrected Altitude, the ASSAP function **shall** (2106) provide the ownship barometric correction to the CDTI.	If the Actual Altitude feature is implemented then the ASSAP subsystem **shall** (289R3.282) be capable of providing and the CDTI subsystem *shall* (289R3.281b) be capable of accepting from the ASSAP subsystem the local pressure setting of the own-ship.			
		If the CDTI uses Length/Width codes, ASSAP **shall** (2107) provide the Ownship Length/Width Codes to the CDTI.	None			
	To Track File	None	The tracking function **Shall** (289R3.170) maintain, for each A/V under track, a file that contains, at a minimum, the elements listed in Table 3 4.	The ASSAP tracking function **Shall** (289R3.170) maintain, for each A/V under track, a file that contains, at a minimum, the elements listed in Table 3-X.		
		None	[For correlated TCAS tracks]... **shall** (289R3.181) provide that [TA & RA] information in the track file (see Table 3 4).			
		None	Call Sign / Flight ID **shall** (289R3.204) be included in the ASSAP track file (Table 3 15)			
		None	ASSAP **shall** (289R2.27) assess the ability of own-ship and traffic targets to support the active applications, or applications within an active ACL; this is done by. ASSAP assessing own-ship performance and transmitted data quality as specified in Table 2-4 and by assessing received traffic data quality as specified in Table 2-1.	ASSAP **shall** (289R2.27) assess the ability of own-ship and traffic targets to support the active applications.		
	Track ID	When new traffic has been added due to traffic being dropped, the new traffic **shall** (2062) use a new Track ID identifier (not the same Track ID identifier that was used for the dropped traffic). Otherwise, the CDTI may mistake the new traffic as the dropped traffic. The only exception is when the new traffic was the same track that was previously dropped.	None			

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		Dropped track IDs **shall** (2063) not be reused for at least 2 seconds.	None			
		Traffic relative range and bearing from ownship **shall** (2069) be calculated based on the Ownship Horizontal Position source defined in Section 2.2.2.3.1 Ownship Horizontal Position.	The horizontal position of the target track relative to own-ship **shall** (289R3.190) be computed by applying the appropriate coordinate transformations between the track's latitude and longitude and own-ship's latitude and longitude and the display coordinates.		The source is not really defined in MOPS	
		If the CDTI uses Traffic Closure Rate, then Traffic Closure rate **shall** (2072) be calculated along the direction of the slant range between the ownship position and the traffic position.	The selected target closure rate **shall** (289R3.194) indicate the radial line of sight closure rate between own-ship and the selected target. (also used in assap > cdti req't)		Reword masps req't to "shall calculate…". Masps req't also used for functional req't 2071.	
		The Traffic Application Capability **shall** (2091) include that the traffic application capability is Invalid or Valid.	None			
		The Traffic Application Capability **shall** (2092) be provided for all available applications (not just the active applications).	None			
		For the following reports, sources and address types (e.g., ICAO vs. non-ICAO) for which there is no track with a matching participant address and source (i.e., ADS‑B, ADS‑R, and TIS‑B), ASSAP **shall** (2112) begin the track initiation process for: a. All ADS‑B and ADS‑R reports. b. All TIS‑B reports when ownship is not TCAS equipped. c. Surface TIS-B reports when ownship is TCAS equipped.	None			
		ASSAP **shall** (2113) be capable of maintaining at least 60 source tracks; in this case priority will determine which tracks are maintained when more than 60 unique reports are presented to ASSAP. Track prioritization is described in Section 2.2.2.5.1.2.	None			
		If the CD application is implemented, ASSAP **shall** (2114) be capable of maintaining at least 130 source tracks. Priority will determine which tracks are maintained when more than 130 unique reports are presented to ASSAP.	None			
		In ASSAP installations supporting TCAS, ASSAP **shall** (2115) be capable of maintaining an additional 30 TCAS source tracks.	None			
		For each report containing an updated position and/or velocity, and where there is an existing track with the same source and participant address, ASSAP **shall** (2116) update that track with the report only when it passes all the following Report Validity Checks given in Section 2.2.3.1.3.1.	None		Uplevel this one	
		Report validation **shall** (2201) consist of at least horizontal velocity validation, horizontal position validation, and vertical position validation.	None			
		The Horizontal Velocity validation criteria design is left to the manufacturer but **shall** (2501) reject velocity magnitude changes that exceed 1.5g over the time between Velocity reports.	None			
		The Horizontal Position validation criteria design is left to the manufacturer but **shall** (2502) reject position changes that would require the aircraft horizontal acceleration in any direction to exceed 1.5 g over the time between Horizontal Position reports.	None			
		The Vertical Position validation criteria design is left to the manufacturer but **shall** (2503) reject vertical positions changes that would require the aircraft vertical rate to exceed 10,000 fpm over the time between Vertical Position reports.	None			
		For each [UAT] report containing an updated position and/or velocity, and where there is an existing track created as a result of duplicate address processing with the same participant address, ASSAP **shall** (2118) update that track with the report only when it passes the Report Validity Tests given in Section 2.2.3.1.3.1.	None			
		For [1090] reports for which there is no track created as a result of duplicate address processing with a matching participant address and ADS‑B source, ASSAP **shall** (####) begin the track initiation process.	Ref (289R3.177)			
		For each [1090] report containing an updated position and/or velocity, and where there is an existing track created as a result of duplicate address processing with the same participant address, ASSAP **shall** (####) update that track with the report only when it passes the Report Validity Tests given in Section 2.2.3.1.3.1.	None			
		All data from the following 1090 MHz Message Type Codes **shall** (####) be invalidated: Types 1 - 4, 19, and 23 – 31. ADS-B reports from DO-260B compliant receivers are allowed to pass on this data without correlating it when duplicate addresses are detected.	None		Link specific data cannot be masps req't	
		Individual reports **shall** (2119) be used for inter-source correlation only after they have passed the Report Validation Checks given in Section 2.2.3.1.3.1.	None			
		None	ASSAP **shall** (289R3.169) provide a tracking function.	Keep as is		
		None	Ref (289R3.170)			
		None	[The tracking function]...**Shall** (289R3.171) determine all fields in Table 3 4 that are not directly provided in measurements.	Delete		
		Inter-source correlation is a one-to-one correlation process, i.e., a track **shall** (2120) be correlated to at most one track of another source.	[The tracking function]... **Shall** (289R3.172) include a correlation function that associates traffic data from different surveillance sources that relate to the same aircraft/vehicle track, i.e., the correlation function is required to associate and cross-reference traffic data from ADS-B traffic, TIS-B traffic, and TCAS traffic.	The ASSAP tracking function **Shall** (289R3.172) include a correlation function that associates traffic data from different surveillance sources that relate to the same aircraft/vehicle track.		
		ASSAP **shall** (2111) receive ADS‑B, ADS‑R and TIS‑B reports from the input interface and output correlated tracks to the CDTI within 2.0 seconds.	The correlation function**shall** (289R3.173) update traffic cross references when new information is available from the ADS-B/TIS-B receive subsystem or TCAS.	The ASSAP track correlation function**shall** (289R3.173) update traffic cross references when new information is available from the ADS-B/ADS-R/TIS-B receive subsystem or TCAS.		
		None	The tracking function **Shall** (289R3.174) include an estimation function that estimates track state based on one or more surveillance source inputs.	Delete		
		None	ASSAP surveillance processing **shall** (289R3.175) optimize the quality of the information best suited to the applications being run (e.g., accuracy, integrity containment bound, or integrity containment risk).	Delete		
		None	ASSAP **shall** (289R3.176) estimate the quality of the track state information that is maintained in the track file, and maintain quality measures for the track state information, as indicated in Table 3‑15.	Delete		
		None	For correlated TCAS tracks, ASSAP **shall** (289R3.180) recognize if a track has an active TCAS resolution advisory or traffic advisory,	Delete		
		For [UAT] reports for which there is no track created as a result of duplicate address processing with a matching participant address and ADS‑B source, ASSAP **shall** (2117) begin the track initiation process.	[The tracking function]... **Shall** (289R3.177) initiate a track for each observed A/V when sufficient measurement information is received to form a minimum track state. Required minimum measurement elements are noted in Table 3 15.	The ASSAP tracking function **Shall** (289R3.177) initiate a track for each observed A/V when sufficient measurement information is received to form a minimum track state. Required minimum measurement elements are noted in Table 3 15.		
		None	[The tracking function]... **Shall** (289R3.178) terminate a track when the maximum coast interval (Table 2-3, row 17) has been exceeded for all of the applications for which the track is potentially being used.	The ASSAP tracking function **Shall** (289R3.178) terminate a track when the maximum coast interval (Table 2-3, row 17) has been exceeded for all of the applications for which the track is potentially being used.		

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Functional Requirements	Correlation	Inter-source correlation obtained with an address match **shall** (2121) take precedence over correlation obtained with another method. See Appendix C for one acceptable method of performing inter-source correlation.	None			
		If TIS‑B and ADS‑B/ADS‑R tracks on the same A/V have matching ICAO addresses, then ASSAP **shall** (2122) correlate these tracks with the following performance: At least a 99% correlation rate for the first TIS‑B report, and subsequent TIS‑B track updates. Less than the maximum permitted decorrelation rate of 0.2% after correct correlation has been achieved. Less than a 0.2% miscorrelation rate.	None			
		If the spatial correlation of TIS‑B tracks with ADS‑B/ADS‑R tracks is implemented, then ASSAP **shall** (2123) correlate these tracks for the same A/V with the following performance: At least a 95% correlation rate on and after the 6th TIS‑B track update. Less than the maximum permitted decorrelation rate of 1% after correct correlation has been achieved. Less than a 1% miscorrelation rate.	None			
		If a TIS‑B track of the ownship has an ICAO address, then ASSAP **shall** (2124) correlate that TIS‑B track with the ownship with the following performance: At least a 99.5% correlation rate for the first TIS‑B report, and subsequent TIS‑B track updates. Less than the maximum permitted decorrelation rate of 0.1% after correct correlation has been achieved. Less than a 0.1% miscorrelation rate.	None			
		If a TIS‑B track of the ownship does not have an ICAO address, then ASSAP **shall** (2125) correlate that TIS‑B track with the ownship with the following performance: At least a 99% correlation rate on and after the 6th TIS‑B track update. Less than the maximum permitted decorrelation rate of 0.2% after correct correlation has been achieved. Less than a 0.2% miscorrelation rate.	None			
		If TCAS and ADS‑B/ADS‑R (and optionally, TIS‑B) tracks on the same A/V have matching ICAO addresses, then ASSAP **shall** (2126) correlate these tracks with the following performance: At least a 99% correlation rate for the first TCAS track report, and subsequent TCAS track updates. Less than the maximum permitted decorrelation rate of 0.2% after correct correlation has been achieved. Less than a 0.2% miscorrelation rate. [TCAS correlation]	If TCAS data is to be integrated on the CDTI, ASSAP **shall** (289R3.179) correlate the TCAS tracks with its internal tracks to the extent practicable. [and/or] The tracking function **Shall** (289R3.172) include a correlation function that associates traffic data from different surveillance sources that relate to the same aircraft/vehicle track, i.e., the correlation function is required to associate and cross-reference traffic data from ADS-B traffic, TIS-B traffic, and TCAS traffic.			
		If an ICAO address is not available for a TCAS track, ASSAP **shall** (2127) correlate this track with an ADS‑B/ADS‑R (and optionally, TIS‑B) track for the same A/V with the following performance: At least a 95% correlation rate on and after the 6th TCAS track update. Less than the maximum permitted decorrelation rate of 1% after correct correlation has been achieved. Less than a 1% miscorrelation rate. [TCAS correlation]				
		When multiple source tracks correlate, the best quality source track **shall** (2128) be chosen using the following criteria in priority order until one source is selected: From the sources that have a non-zero NIC, select the source with the highest non-zero SIL. From sources that have the same highest non-zero SIL value, select the source with the highest NIC. From sources that have the same highest values of SIL and NIC, select the source with the highest NACp. From sources that have the same highest values of SIL, NIC, and NACp, select the one source with the highest NACv. From sources that have the same highest SIL, NIC, NACp, and NACv values, select the ADS‑B source first, then the ADS‑R source, and finally the TIS‑B source.	None			
		TCAS reports do not contain any of these criteria. When a TCAS track correlates with an existing track it **shall** (2129) only be chosen as the best track when all other source position accuracies drop below the minimum threshold for performing the Enhanced Visual Acquisition application.	None			
		None	The ASSAP track report **shall** (289R3.198) indicate if the track's quality is insufficient for a basic application.		Remove basic application and reword as a high level req't	
		ASSAP **shall** (2130) terminate a track when the maximum data age has been exceeded for all of the applications for which the track is potentially being used. The data age is the elapsed time since a report from any source has been correlated with the track.	[maybe table 2-3]			
		Track estimates **shall** (2131) be generated at a rate of 1 Hertz (Hz) or greater.	None [There are req'ts to update cdti tracks at this rate]			
		Track estimates **shall** (2132) include target horizontal position, barometric altitude, and geometric altitude (when barometric altitude is not available), estimated to a common time of applicability (within +/- 200 ms) for all tracks.	None			
		Ownship state information is estimated to the same common time of applicability as the traffic tracks (see section 2.2.2.5.2.1). Estimation of ownship state information **shall** (2134) include ownship horizontal position, barometric altitude, and geometric altitude (when barometric altitude is not available), estimated to a common time of applicability (within +/- 500 msec) of the time of display.	None			
		For TCAS/ASAS integrated systems, ASSAP **shall** (2135) flag airborne tracks that are not correlated with a TCAS track as Proximate Traffic based on DO‑185B requirements (6 NM, 1200 feet).	None			
		A means **shall** (2176) be provided for monitoring of the ASSAP function's ability to perform its intended function.	None			
		Detections of any fault condition resulting in the inability of ASSAP to perform its intended function **shall** (2177) result in an annunciation to the flight crew.	None			
		None	The probability of mismatching TCAS/ADS-B tracks, or not matching TCAS/ADS-B tracks, should be minimized (the criterion for minimizing **shall** (289R3.182) be defined in the ASAS MOPS).			
		None	ASSAP surveillance processing **shall** (289R3.183) cross-correlate the traffic from TIS-B and ADS-B reports supplied by the ADS-B receiver.			
		None	The probability of mismatching TIS-B/ADS-B tracks, or not matching TIS-B/ADS-B tracks, should be minimized (the criterion for minimizing **shall** (289R3.184) be defined in the ASAS MOPS).			
		None	ADS-B / ADS-B correlation: if the aircraft ADS-B installation includes multiple ADS-B links, ASSAP surveillance processing **shall** (289R3.185) correlate (cross-reference) traffic from the different links and associate the traffic with the appropriate ASSAP track.			
		None	The ASSAP **shall** (289R3.185-A) assess the TQL and ACL from all A/Vs to determine the ability of those A/Vs' equipment and broadcast data to support the installed applications. Table 3-14 indicates the required TQL to support the applications in each ACL.	The ASSAP **shall** (289R3.185-A) assess the availability, quality, and validity of the required data from all A/Vs to determine the ability of those A/Vs' equipment and broadcast data to support the installed applications.		

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		None	ASSAP **shall** (289R3.189) estimate the velocity accuracy, and use the estimated value to determine traffic qualification as appropriate as indicated by Table 2-3.			
		None	Supported application **shall** (289R3.191) indicate the ASA Capability Level of the target track			
		None	~~The degraded data field **shall** (289R3.193) indicate if the data is considered to be degraded for an active application.~~			
		None	~~If the sole surveillance source of information is ADS-B or TIS-B, the track quality assessment **shall** (289R3.196) be based on the transmit quality level (TQL) transmitted by the source and, for TQL > 1, the NIC, NACP, NACV, and SIL requirements specified in Table 2-3.~~ //dje, change by removing TQL			
		None	~~The ASSAP track report **shall** (289R3.197) be updated to reflect any degraded condition for EVAcq or ASSA/FAROA, as appropriate, as per Table 2-3.~~			
		None	The ASA MASPS version number (§3.1.5.24) **shall** (289R3.203) be used to coordinate applications processing appropriately for the version combination on own-ship and the target ship.			
		None	ASSAP **shall** (289R3.209) convert heading from true or magnetic heading to the appropriate orientation for consistent display on the CDTI.			
General Quantitative Requirements		The [horizontal] position provided [by ownship] **shall** (2097) meet the requirements defined in Table 2-3.	None			
		The time registration between ownship TOA and the common TOA of the target tracks **shall** (2098) be within +/-500 ms. [assap output to cdti req't]	The horizontal positions of traffic **shall** (289R3.277) be at a common time of applicability for all traffic to be displayed. [change to say, and ownship] [this is a cdti input from assap req't]			
		The [ownship] velocity provided [to the CDTI] **shall** (2100) meet the requirements defined in Table 2-3.	None			
	EVAcq	ASSAP may perform the Enhanced Visual Acquisition application when Ownship horizontal position is valid. When Ownship horizontal position is invalid, ASSAP **shall** (2136) signal that EVAcq is Unavailable (fail) via the CDTI interface.	Ref (289R3.198)	Don't need, Application no longer in MOPS But the Hi level masps req't that mapped to here will be used.		
		When Ownship horizontal position uncertainty (95%) is worse than 0.5 NM, ASSAP **shall** (2137) signal that EVAcq is inoperative via the CDTI interface.	Ref (289R3.288)	Don't need, Application no longer in MOPS But the Hi level masps req't that mapped to here will be used.		
		No ASSAP system should be designed or installed without a pressure altitude source. If ownship pressure altitude becomes invalid, EVAcq may continue to operate. In this reversionary state, the relative altitude tags computed using traffic pressure altitude **shall** (2138) not be output.	None	Don't need, Application no longer in MOPS but will have to map AIRB req'ts in it's place.		
		Equipment supporting the EVAcq application **shall** be designed to meet a System Design Assurance Level of 2 or greater.	None [maybe table 2-3]		[should uplevel for masps]	
		An EVAcq traffic **shall** (2139) be derived from a track with valid horizontal position.	None		this looks like a good high level requirement if made general	
		A traffic track with NACp less than 5 **shall** (2140) not be provided to the CDTI interface.	None [maybe table 2-3]		this might ba a good general requirement for the masps (check value)	
		An EVAcq traffic may not be reporting barometric altitude. This condition is known as non-altitude reporting or NAR. If relative geo altitude is used, the following **shall** (2141) apply: the Version 1 traffic's NACp must be 9 or greater, Version 2 traffic's GVA must be 1 or greater, and ownship geometric altitude uncertainty (95%) must be less than 45m.	None [maybe table 2-3]			
		Version 2 EVAcq traffic with an SDA less than 1 **shall** (####) not be provided to the CDTI interface.	None [maybe table 2-3]			
		If an EVAcq track's data age exceeds 25 seconds, ASSAP **shall** (2142) remove the traffic from the CDTI interface. This is the maximum data age allowed based on an enroute SSR TIS-B update.	None [maybe table 2-3]		make into high level general requirement	
	ASSA/FAROA	ASSAP may perform the ASSA/FAROA application when Ownship horizontal position and vertical position is valid and of sufficient quality. When airborne, Ownship data must meet the following criteria or ASSAP **shall** (2143) signal that ASSA/FAROA is inoperative via the CDTI interface: A GPS using the SA On assumption is providing valid Horizontal Position with a reported horizontal uncertainty (95%) less than 100 meters AND pressure altitude is valid. OR A GPS using the SA On assumption is providing valid Horizontal and Vertical Position (Geometric Altitude) with a reported horizontal uncertainty (95%) less than 100 meters and reported vertical uncertainty (95%) less than 45 meters. OR A GPS using the SA Off assumption or alternative position source is providing valid Horizontal Position with a reported horizontal uncertainty (95%) less than 50 meters AND pressure altitude is valid. OR A GPS using the SA Off assumption or alternative position source is providing valid Horizontal and Vertical Position (Geometric Altitude) with a	None [maybe table 2-3]	Don't need, Application no longer in MOPS But will have to map SURF requirements to MASPS in it's place		
		When on ground, Ownship data must meet the following criteria or ASSA **shall** (2144) signal that ASSA/FAROA is inoperative via the CDTI interface: A GPS using the SA On assumption is providing valid Horizontal Position with a reported horizontal uncertainty (95%) less than 100 meters. OR A GPS using the SA Off assumption or alternative position source is providing valid Horizontal Position with a reported horizontal uncertainty (95%) less than 50 meters.	None [maybe table 2-3]			
		If a Runway database is not available for depiction of the Runway Surfaces and Extended Centerline, or Final Approach Course, ASSAP **shall** (2145) signal that FAROA is Unavailable (fail) via the CDTI interface.	None			
		If an Airport Surface database is not available for depiction of the Runway Surfaces, Extended Centerline or Final Approach Course, Taxiways, and Movement Surfaces, ASSAP **shall** (2146) signal that ASSA is Unavailable (fail) via the CDTI interface.	None			
		Equipment supporting the ASSA/FAROA application **shall** be designed to meet a System Design Assurance Level of 2 or greater.	None [maybe table 2-3]			
		When AIRBORNE traffic meets the following criteria , ASSAP **shall** mark the traffic valid for ASSA/FAROA on the CDTI interface: Traffic is reporting valid horizontal position with a NACp of 5 (0.5 NM) or greater. AND Traffic is reporting valid pressure altitude OR valid geometric altitude with a NACp of 9 or greater (Version 1) OR valid geometric altitude with a GVA of 1 or greater. AND Traffic position message has been received within the last 11 seconds. SURF not harmonized…airborne requirements not different and related to EVAcq SPR49 has 10 m 95% for all use //dje, make high level	None [maybe table 2-3]			

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Application Processing Specific MOPS Requirements		When ON GROUND traffic meets the following criteria, ASSAP **shall** (2148) mark the traffic valid for ASSA FAROA on the CDTI interface: Traffic is reporting valid Horizontal position with a NACp of 9 (30 m) or greater. ~~Traffic reporting valid Horizontal position with a NACp of 7 or 8 may be marked as degraded for ASSA/FAROA.~~ AND Traffic in motion and a position message has been received within the last 11 seconds, OR traffic is not in motion and a position message has been received within the last 25 seconds. SURF not harmonized…SPR49 has 10 m 95% for all SURF traffic	None [maybe table 2-3]			
		Version 2 ASSA/FAROA traffic with an SDA less than 1 **shall** (####) not be marked valid for ASSA/FAROA on the CDTI interface.	None [maybe table 2-3]			
		If an applicant chooses to implement CD, the requirements in this document may be referenced; however the CD requirements are not intended to be referenced by regulatory guidance. CD **shall** (2149) not be integrated with TCAS equipment.	None	Don't need, Application no longer in MOPS		
		If the installed system has the option for CD, ASSAP **shall** (2150) determine if each track is eligible for CD processing, and accept alert threshold parameters from the CDTI Interface.	If the installed system has the option for conflict detection (CD), ASSAP **shall** (289R3.199) determine if each track is eligible for CD processing, as per Table 2 3.	Delete	**This 289 masps req't may handle many of the CD req'ts here**	
		Using the most recent set of these [threshold alert] parameters, each track that is eligible for CD shall (2151) be processed by the CD alerting function,	Each track that is eligible for CD **shall** (289R3.200) be processed by the CD alerting function.	Delete		
		and the resulting CAZ alerts and CDZ alerts shall (2152) be issued as appropriate.	For each track that is eligible for CD, CAZ alerts or CDZ alerts **shall** (289R3.201) be issued as appropriate.	Delete		
			For this version of the ASA MASPS, CAZ and CDZ alerts **shall** (289R3.292) be issued [to the CDTI] as required by ASSAP if the optional CD application is implemented.	Req't in CDTI section, Delete, application no longer in MOPS		
		Upon receiving a new set of alert threshold parameters, alerts determined from the previous set of parameters **shall** (2153) be deleted, and a new set of alerts using the updated threshold parameters shall (2154) be issued.	None	Don't need, Application no longer in MOPS		
		ASSAP **shall** (2155) include in the ASSAP track report the status of the CAZ alert and the CDZ alert.	ASSAP **shall** (289R3.202) include in the ASSAP track report the status of the CAZ alert and the CDZ alert.	Delete		
	CD	When Ownship horizontal or vertical position is invalid, ASSAP **shall** (2156) signal that CD is Unavailable (fail) via the CDTI interface.	None	Don't need, Application no longer in MOPS		
		When Ownship horizontal position uncertainty (95%) is greater than 0.5 NM, ASSAP **shall** (2157) signal that CD is Unavailable (fail) via the CDTI interface.	None [maybe table 2-3]			
		When geometric altitude is used for vertical position and Ownship vertical position uncertainty (95%) is greater than 45 m, ASSAP **shall** (2158) signal that CD is Unavailable (fail) via the CDTI interface.	None [maybe table 2-3]			
		When Ownship horizontal velocity uncertainty (95%) is greater than a value determined during design approval, ASSAP **shall** (2159) signal that CD is Unavailable (fail) via the CDTI interface.	None			
		Equipment supporting the CD application **shall** be designed to meet a System Design Assurance Level of 2 or greater.	None [maybe table 2-3]			
		CD traffic **shall** (2160) be derived from a traffic track with valid horizontal and vertical position.	None			
		When pressure altitude is used for vertical position, a traffic track **shall** (2161) have a NACp of 5 or greater to be marked as a valid CD traffic.	None [maybe table 2-3]			
		When geometric altitude is used for vertical position, a Version 1 traffic track **shall** (2162) have a NACp of 9 or greater to be marked as a valid CD traffic.	None [maybe table 2-3]			
		When geometric altitude is used for vertical position, a Version 2 traffic track **shall** (####) have a GVA of 1 or greater to be marked as valid CD traffic.	None [maybe table 2-3]			
		A traffic track **shall** (2163) have a NACv of a value determined during design approval or greater to be marked as a valid CD target.	None			
		If a CD traffic track is not updated within the maximum data age of 25 seconds, ASSAP **shall** (2164) mark the traffic as invalid for the Conflict Detection application.	None [maybe table 2-3]			
		If a Version 2 CD traffic track has an SDA less than 1, it **shall** (####) be marked as invalid for the Conflict Detection application.	None [maybe table 2-3]			
	EVApp	When own aircraft horizontal or vertical position is invalid, ASSAP **shall** (2165) signal that EVApp is Unavailable (fail) via the CDTI interface.	None	Don't need, Application no longer in MOPS		
		When own aircraft horizontal position uncertainty (95%) is greater than 0.3 NM (185.2 m), ASSAP **shall** (2166) signal that EVApp is Unavailable (fail) via the CDTI interface. //dje, make general req't for cdti message, may use table to show apps.	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		When geometric altitude is used for vertical position and own aircraft vertical position uncertainty (95%) is greater than 45 m, ASSAP **shall** (2167) signal that EVApp is Unavailable (fail) via the CDTI interface. //dje, make general	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		When own aircraft horizontal velocity uncertainty (95%) is greater than or equal to 10 m/s, ASSAP **shall** (2168) signal that EVApp is Unavailable (fail) via the CDTI interface. //dje, make general	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		When the ownship SIL is zero or the horizontal position Radius of Containment (RC) is greater than 0.5 6 NM , ASSAP **shall** (2169) signal that EVApp is Unavailable (fail) via the CDTI interface. //dje, make general	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		Equipment supporting the EVApp application **shall** be designed to meet a System Design Assurance Level of 2 or greater. //dje, make general	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		When geometric altitude is used for vertical position, Version 2 traffic **shall** (2172) have a GVA of 1 or greater to be marked as a valid EVApp traffic.	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		Traffic **shall** (2173) have a NACv of 1 or greater to be marked as a valid EVApp traffic.	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		Traffic track **shall** (2174) have a SIL of 1 or greater and a NIC of 6 or greater to be marked as a valid EVApp traffic.	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		If EVApp traffic is not updated within the maximum data age of 15 seconds, ASSAP **shall** (2175) mark the traffic as invalid for the EVApp application.	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		Version 2 EVApp traffic with a SDA less than 1 **shall** (####) be marked as invalid for the EVApp application.	None [maybe table 2-3]	Don't need, Application no longer in MOPS		
		When the ownship Horizontal Position, Pressure Altitude, N/S E/W Velocity OR any associated quality/integrity parameters (e.g. Horizontal Velocity Uncertainty, SIL) are invalid, ASSAP **shall** (Req# TBD) signal that ITP is Unavailable (input data failure) via the CDTI interface.	None			
		When the ownship Horizontal Position Uncertainty (95%) is worse than 0.5 NM, ASSAP **shall** (Req# TBD) signal that ITP is Unavailable (does not meet the performance criteria) via the CDTI interface.	None			
		When the ownship Horizontal Velocity Uncertainty (95%) is greater than 10 m/s, ASSAP **shall** (Req# TBD)signal that ITP is Unavailable (does not meet the performance criteria) via the CDTI interface.	None			
		When the ownship Horizontal Position Integrity Containment Region (RC) is greater than 1.0 NM, ASSAP **shall** (Req# TBD) signal that ITP is Unavailable (does not meet the performance criteria) via the CDTI interface.	None			

Category	Subcategory	317 MOPS Req'ts	289 MASPS Req't's	3xx MASPS Req't Recommendation	Notes	
	ITP	When the ownship Surveillance Integrity Level (SIL) is less than 2 (1E-5), ASSAP **shall** (Req# TBD)signal that ITP is Unavailable (does not meet the performance criteria) via the CDTI interface.	ASSAP **shall** (289R3.212) achieve the subsystem integrity risk and continuity risk requirements listed in Table 3 17. [assap equipment integrity] & Table 2-4			
		Equipment supporting the ITP application **shall** (Req# TBD) be designed to meet a System Design Assurance Level of 2 or greater.				
		The likelihood that undetected erroneous information about accuracy levels of the ITP A/C's data is provided to the FC **shall** () be less than 1E-3 per flight hour.				
		The likelihood that undetected erroneous information about integrity levels of the ITP A/C's data is provided to the FC **shall** () be less than 1E-3 per flight hour.				
		The ITP A/C system integrity level **shall** () be 1E-5 or better for horizontal position data				
		The Total Uncompensated Latency of the ITP A/C's position **shall** () not exceed 4.575 seconds.				
		The horizontal position accuracy data criteria **shall** () be considered passed only if the ITP A/C data has a horizontal position accuracy of at least 0.5 NM at the 95th percentile.	None [maybe table 2-4]			
		The position integrity data criterion **shall** () be considered passed only if the ITP A/C data has a horizontal position integrity bound of 1.0 NM with an integrity level of 1E-5.	None [maybe table 2-4]			
		The ITP A/C system integrity level **shall** (93) be 1E-5 or better for horizontal position data.	ASSAP **shall** (289R3.212) achieve the subsystem integrity risk and continuity risk requirements listed in Table 3 17. [assap equipment integrity] & [maybe table 2-4]			
		The horizontal velocity accuracy data criterion **shall** () be considered passed only if the ITP A/C data has a horizontal velocity accuracy of at least 10 m/s (19.4 kts) at the 95th percentile.	None [maybe table 2-4]			
		ASSAP **shall** (xx) flag a potentially blocking ITP traffic valid for ITP computations and marked valid (meets the good performance criteria) for ITP via the CDTI interface when all the following criteria are true: Traffic is reporting valid Horizontal Position , Horizontal Velocity, Pressure Altitude, and Flight ID. Traffic is reporting a NACp of 5 (0.5 NM) or greater. Traffic is reporting a NIC of 5 (1.0 NM) or greater.	None			
		The Total Uncompensated Latency of Received traffic position **shall** () not exceed 1.575 seconds.	None [maybe table 3-1]			
		The likelihood that undetected erroneous accuracy levels of Potentially Blocking A/C **shall** () be less than 1E-3 per flight hour.	ASSAP track quality (§3.3.2.1.1) **shall** (289R3.195) be compared with acceptable values for basic and intermediate applications, as per Table 2-3.			
		The likelihood that undetected erroneous integrity levels of Potentially Blocking A/C **shall** () be less than 1E-3 per flight hour.				
		When the ITP application is active, ASSAP **shall** determine the two closest (if any) traffic between ownship's current and selected altitude that meet the ITP criteria (see below), and flag that traffic as {selected? coupled? Reference?}	None			
		The ITP Distance **shall** () be calculated.	None			
		ITP Ground Speed Differential **shall** () be calculated.{examples should go in appendix}	None			
		The relative track angle between the tracks of the Potentially Blocking A/C and the ITP A/C **shall** () be calculated .	None			
		The difference in altitude between the ITP A/C and the Potentially Blocking A/C **shall** () be calculated.	None			
		Whether the ITP Application initiation criteria are met **shall** () be assessed.	None			
		The ITP Speed/Distance Criteria **shall** () be considered passed if one of the following are met: ITP Distance ≥ 15 NM and ITP Ground Speed Differential ≤ 20 Knots Or ITP Distance ≥ 20 NM and ITP Ground Speed Differential ≤ 30 Knots	None			
		The Relative Altitude Criteria **shall** () be considered passed if and only if the difference in altitude between the ITP A/C and the Potentially Blocking A/C is less than or equal to 2,000 feet.	None			
		The Similar Track Criterion **shall** () be considered passed if and only if the difference in track angles between the ITP and Potentially Blocking A/C is less than ±45°	None			
		The likelihood that corruption of the information used for calculating the ITP Distance or the result of the ITP Distance calculation **shall** () be less than 1E-5 per flight hour .	None [maybe table 2-3 & 3-17]			
		The likelihood that undetected erroneous relative track angle provided to the flight crew **shall** () be less than 1E-3 per flight hour.	None [maybe table 2-3 & 3-17]			
STUFF TO THINK ABOUT OR DO TO THE MATRIX						
Need to go back and make sure that anything listed in table 3-18 that is not in DO-317 becomes an orphan parent!						
Maybe flag columns for "when avalable" or "conditional"						