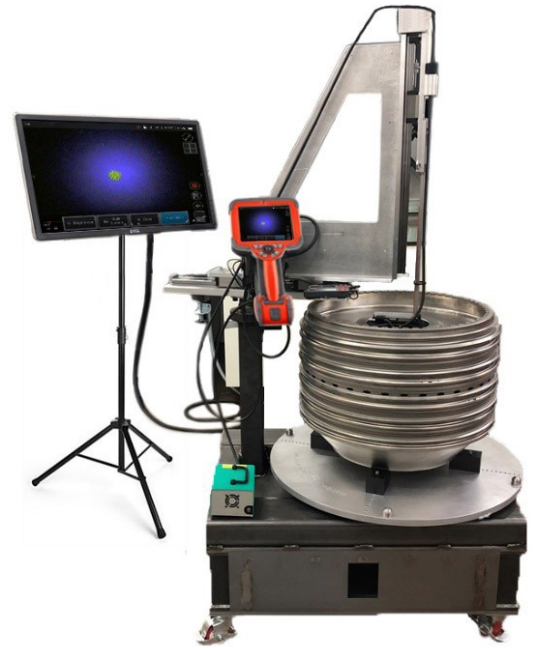# Canyon Run Engineering Technologies Deep Well Spool Inspection System

**Accepted by GE Aviation
Meets P3TF44, P3TF47 and SPM 70-32-02
requirements**

Canyon Run Engineering Technologies deep well inspection tool

Deep well spool inspection solution with Waygate Technologies' Mentor Visual iQ UV VideoProbe™ kit

Kit contents

Deep well inspection system

Canyon Run Engineering Technologies (CRET) has developed an inspection system which accepts the Mentor Visual iQ (MViQ) Ø8.4mm UV VideoProbe to provide an inspection of aviation turbine spool assemblies. The system can be configured for specific spool dimensions.
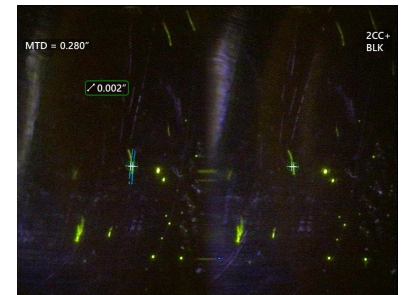
Mentor Visual iQ UV VideoProbe

Waygate Technologies Ø8.4mm Mentor Visual iQ UV/white light video borescope kit. The MViQ VideoProbe supports Stereo measurement technologies allowing linear defect measurements under UV illumination using a fully surfaced XYZ point cloud.

Kit applicability and approvals

The combined system of the Waygate Technologies Ø8.4mm Mentor Visual iQ UV VideoProbe and the CRET Deep Well Spool Inspection turn table assembly have been tested and accepted by GE Aviation to meet the requirements of GE Aviation SPM 70-32-02, P3TF44 and P3TF47 specifications.

MViQ VideoProbe™

Stereo UV measurement

GE Aviation specification compliance

This system has been tested to meet the GE Aviation specifications P3TF44, P3TF47 and SPM 70-32-02 when used with one of the following Waygate Technologies 8.4mm UV VideoProbe kits:

Kit part number	Kit description
MVIQ8430RCUV-SYS	MVIQ Analyze Videoprobe System, 8.4mm x 3.0m UV probe, full tip set, & UV light Source
MVIQP8430UV-PLS	MVIQ 8.4mm x 3.0m UV probe, full tip set, & UV light Source
MVIQP8430UV-PLS-UG	MVIQ 8.4mm x 3.0m UV probe, full tip set, UV light Source, & stereo measurement software
MVIQ8420RCUV-SYS	MVIQ Analyze Videoprobe System, 8.4mm x 2.0m UV probe, full tip set, & UV light Source
MVIQP8420UV-PLS	MVIQ 8.4mm x 2.0m UV probe, full tip set, & UV light Source
MVIQP8420UV-PLS-UG	MVIQ 8.4mm x 2.0m UV probe, full tip set, UV light Source, & stereo measurement software

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Canyon Run turntable assembly technical description

Features*	Description/details
System dimensions (W x H x D)	30.25" x 72" x 53"
Max turn table capacity	450 lbs.
Turn table diameter	32.25"; Interchangeable tooling/locating features for varying part diameters
Turn table rotational path	360º (infinite) for complete part inspection
Turn table measurement type	Angular identification marks on turn table to aid in indication location
Z axis slide arm traverse range	16.25"; additional tooling and system configurations available for deeper spool inspection
Z axis measurement type	Dedicated digital readout display
Y axis slide arm traverse range	8.00"; Additional tooling and system configurations are also available
Y axis measurement type	Dedicated digital readout display
Manual transportation	Built in handle and locking caster wheels for manual maneuvering
Machine assisted transportation	Forklift tubes
Secondary display	Mounted: 28", 4K 3840 X 2160 resolution (UHD), 60Hz (DP)
Turn table access	Locking pivot of axes slide arms for vertical part loading
Accessories	Custom end of arm tooling, spool risers, spacers, interchangeable fixturing and locators for varying part sizes
Storage	Lower tooling storage drawer on most configurations

*Most features are customizable upon request

Mentor Visual iQ VideoProbe™ technical description

Features	Description/details
Display	6.5" XGA LCD, daylight readable with touchscreen
8.4mm QuickChange™ probe	Standard probe length is 3.0 meters. (Probe length requirement may vary by application – Contact Canyon Run Engineering Technologies)
Wireless capability	Wi-Fi and Bluetooth radios included
Included accessories	Wheeled shipping case, two 2-hr batteries, battery charger, power cord, optical tip cases, user manual on USB thumb drive, magic arm handset mount, standard and measurement optical tips (see list below)
Illumination	External UV/white LED-based light source (ELS-50LEDUV light source included)
Measurement	Traditional Stereo and 3D-Stereo measurement
Battery	2-hr Li ion battery pack, charge while attached or detached from handset
I/O ports	(2) USB 3.0 "A", (1) USB 3.0 client micro 'B', DisplayPort digital video output
Image formats	Still image: bitmap (.BMP) and JPEG (JPG), video: MPEG4 AVC/H.264
Included accessories	Magic arm handset mount, additional battery, optical tips (see list below)
UV specification compliance	When using ELS-50LEDUV light source and appropriate OTAs to obtain required optical resolution, UV energy and minimal white light energy on the target indication – meets ASTM E1417M-13, GE Aviation SPM 70-32-02, P3TF44 and P3TF47
Agency compliance	Group 1 Class A; EN61326-1, IEC CB Scheme, UL/EN/CSA-C22.2 61010-1, IEC 62133, UN/DOT T1-T8, EU RoHS 2, EU RED Directive, ISTA 2G

Mentor Visual iQ 8.4mm Optical Tip Adapters (OTA) white light and UV performance (typical)

Diam.	Part number	Characteristics FV = Forward, SV = Side, ST = Stereo	FOV˚	White light range (in) <2FC	G1/E5 res. range (in)		UV range (in)	
					Minimum	Maximum	1000uW	1200uW
8.4mm	XLG3T8440FF	FV, Far DOF, HG	40˚	>0.5 in	N/A	N/A	0 – 3.7	0 - 3.4
8.4mm	XLG3T8480FG	FV, Far DOF, Yellow	80˚	>0.5 in	0.2	2.5	0 – 2.4	0 – 2.2
8.4mm	XLG3T8440FG	FV, Far DOF, White	40˚	>0.5 in	N/A	N/A	0 – 3.6	0 – 3.2
8.4mm	XLG3T84120FN	FV, Near DOF, Black	120˚	>0.5 in	0.1	2.0	0 – 1.7	0 – 1.6
8.4mm	XLG3T8440SF	SV, Far DOF, Brown	40˚	>0.5 in	N/A	N/A	0 – 1.9	0 – 1.7
8.4mm	XLG3T84120SN	SV, Near DOF, Blue	120˚	>0.6 in	0.1	2.0	0 – 0.7	0 – 0.6
8.4mm	XLG3T8480SG	SV, Far DOF, Green	80˚	>0.5 in	0.1	2.5	0 – 1.7	0 – 1.4
8.4mm	XLG3TM846060FG	FV, ST, Near DOF, Black	60˚/60˚	>0.5 in	0.1	2.2	0 – 1.9	0 – 1.7
8.4mm	XLG3TM846060SG	SV, ST, Near DOF, Blue	60˚/60˚	>0.5 in	0.1	2.5	0 – 1.9	0 - 1.7

Ordering information

Canyon Run Engineering Technologies

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For technical support regarding the Mentor iQ UV VideoProbe, contact your local Waygate Technologies sales representative or learn more at

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