

## Machine Id HITACHI TH17 (S/N HCMDAF60A00100067) Component Hydraulic System Fluid DURALENE Trans-Flo UTF (--- QTS)

## RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

**WEAR** 

The iron level is severe.

## CONTAMINATION

Elemental levels of silicon (Si) and aluminum (AI) indicate aluminasilicate (coarse dirt) ingress.

The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0024019	DC0018861	DC0014241
Sample Date		Client Info		09 May 2024	10 Jan 2023	07 Jun 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>20	<b>117</b>	<b>▲</b> 112	<b>▲</b> 125
Chromium	ppm	ASTM D5185m	>10	7	6	6
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	<mark> </mark> 12	<b>1</b> 2	<b>1</b> 3
Lead	ppm	ASTM D5185m	>10	1	<1	<1
Copper	ppm	ASTM D5185m	>75	14	15	13
Tin	ppm	ASTM D5185m	>10	<1	1	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	A MODER
Vallow Matal	agalar	*)/:		NONE		
reliow wietai	scalar	visuai	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	39	A 44	56
Silicon	ppm	ASTM D5185m	>20 >20	NONE ▲ 39 3	▲ 44 2	▲ 56 4
Silicon Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>20 >20 >20	NONE	▲ 44 2 NEG	▲ 56 4 NEG
Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method	>20 >20 >0.1 NONE	A 39 3 NEG NONE	A 44 2 NEG NONE	▲ 56 4 NEG NONE
Silicon Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>20 >20 >0.1 NONE NONE	A 39 3 NEG NONE NONE	A 44 2 NEG NONE NONE	▲ 56 4 NEG NONE
Silicon Potassium Water Silt Debris Sand/Dirt	ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>20 >20 >0.1 NONE NONE NONE	NONE 39 3 NEG NONE NONE NONE	A 44 2 NEG NONE NONE NONE	▲ 56 4 NEG NONE NONE NONE
Silicon Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>20 >20 >0.1 NONE NONE NORE	NONE 39 3 NEG NONE NONE NONE NONE NONE	A 44 2 NEG NONE NONE NONE NORE	<ul> <li>▲ 56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual	>20 >20 >0.1 NONE NONE NONE NORML	A 39 3 NEG NONE NONE NONE NORML	▲ 44 2 NEG NONE NONE NONE NORML	<ul> <li>▲ 56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 >0.1 NONE NONE NORML NORML >0.1	NONE 39 3 NEG NONE NONE NONE NORML NORML NEG	A 44 2 NEG NONE NONE NORML NORML NEG	<ul> <li>▲ 56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 >0.1 NONE NONE NORML NORML >0.1	NONE 3 NEG NONE NONE NONE NORML NORML NEG	▲ 44 2 NEG NONE NONE NONE NORML NORML NEG	<ul> <li>NONE</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >20 >0.1 NONE NONE NONE NORML NORML >0.1	NONE 39 3 NEG NONE NONE NORML NORML NEG 6	▲ 44 2 NEG NONE NONE NORML NORML NEG 5	<ul> <li>NONE</li> <li>56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NONE NORML NORML >0.1	NONE 39 3 NEG NONE NONE NORE NORML NEG 6 46	▲ 44 2 NEG NONE NONE NORML NORML NEG 5 50	<ul> <li>NONE</li> <li>56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	NONE 39 3 NEG NONE NONE NORML NORML NEG 6 46 0	▲ 44 2 NEG NONE NONE NORML NORML NEG 5 50 0	<ul> <li>NONE</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> <li>2</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	<ul> <li>NONE</li> <li>39</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>6</li> <li>46</li> <li>0</li> <li>1</li> </ul>	<ul> <li>▲ 44</li> <li>2</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>5</li> <li>50</li> <li>0</li> <li>1</li> </ul>	<ul> <li>NONE</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> <li>2</li> <li>1</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	<ul> <li>NONE</li> <li>39</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>6</li> <li>46</li> <li>0</li> <li>1</li> <li>&lt;1</li> </ul>	<ul> <li>44</li> <li>2</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>5</li> <li>50</li> <li>0</li> <li>1</li> <li>1</li> </ul>	<ul> <li>NONE</li> <li>56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> <li>2</li> <li>1</li> <li>1</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	<ul> <li>NONE</li> <li>39</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>6</li> <li>46</li> <li>0</li> <li>1</li> <li>&lt;1</li> <li>0</li> </ul>	<ul> <li>44</li> <li>2</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>5</li> <li>50</li> <li>0</li> <li>1</li> <li>1</li> <li>20</li> </ul>	<ul> <li>NONE</li> <li>56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> <li>2</li> <li>1</li> <li>18</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	<ul> <li>NONE</li> <li>39</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>6</li> <li>46</li> <li>0</li> <li>1</li> <li>&lt;1</li> <li>0</li> <li>1913</li> </ul>	<ul> <li>▲ 44</li> <li>2</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>5</li> <li>50</li> <li>0</li> <li>1</li> <li>20</li> <li>1961</li> </ul>	<ul> <li>NONE</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> <li>2</li> <li>1</li> <li>18</li> <li>1795</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	<ul> <li>NONE</li> <li>39</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>6</li> <li>46</li> <li>0</li> <li>1</li> <li>&lt;1</li> <li>0</li> <li>1913</li> <li>738</li> </ul>	<ul> <li>A44</li> <li>2</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>5</li> <li>50</li> <li>0</li> <li>1</li> <li>20</li> <li>1961</li> <li>727</li> </ul>	<ul> <li>NONE</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> <li>2</li> <li>1</li> <li>18</li> <li>1795</li> <li>780</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	<ul> <li>NONE</li> <li>39</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>6</li> <li>46</li> <li>0</li> <li>1</li> <li>&lt;1</li> <li>0</li> <li>1913</li> <li>738</li> <li>753</li> </ul>	<ul> <li>A44</li> <li>2</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>5</li> <li>50</li> <li>0</li> <li>1</li> <li>20</li> <li>1961</li> <li>727</li> <li>740</li> </ul>	<ul> <li>NONE</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>2</li> <li>64</li> <li>2</li> <li>1</li> <li>18</li> <li>1795</li> <li>780</li> <li>796</li> </ul>
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.1 NONE NONE NORML NORML >0.1	NONE 39 3 NEG NONE NONE NORML NORML NORML NORML NORML 0 6 46 0 1 <10 1913 738 753 3975	<ul> <li>A44</li> <li>2</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>5</li> <li>50</li> <li>0</li> <li>1</li> <li>20</li> <li>1961</li> <li>727</li> <li>740</li> <li>3873</li> </ul>	<ul> <li>NONE</li> <li>56</li> <li>4</li> <li>NEG</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>2</li> <li>64</li> <li>2</li> <li>1</li> <li>1</li> <li>18</li> <li>1795</li> <li>780</li> <li>796</li> <li>3607</li> </ul>

Contact/Location: JACOB FLAUGHER - MAGUNI



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