Non-Compliance
The COMMON Factor

Jo Gillespie
McKechnie Aviation

Who is Jo Gillespie?
There should be a bio in the conference papers...
The COMMON Factor?

On 30mph roads, 53% of cars exceeded the speed limit, with 6% exceeding 40mph.

On 20mph roads with free-flow conditions (i.e. excluding roads with traffic calming measures - which may not be typical of most 20 mph roads), 81% of cars exceeded the speed limit, with 15% exceeding 30mph.
The COMMON Factor

Reasons given for breaking the limit

- I drive at the speed of other drivers
- The speed limit is inappropriate
- Sometimes it is safe to go faster than the limit
- I felt pressured by drivers behind me
- I don't look at the speedo often enough

Other:
- The chance of being caught is low;
- I lose concentration;
- Speed limits are meaningless…
ICAO Pilot Core Competencies

<table>
<thead>
<tr>
<th>Competency Description</th>
<th>Behavioral Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifies and applies procedures in accordance with published operating instructions and applicable regulations, using the appropriate knowledge</td>
<td>Identifies the source of operating instructions. Follows ICAO’s unless a higher degree of safety is required. Identifies and follows all operating instructions. Correctly operates aircraft systems and associated equipment. Complies with applicable regulations. Applies relevant procedural knowledge.</td>
</tr>
<tr>
<td>Demonstrates effective oral and non-verbal communications, in normal and non-normal situations</td>
<td>Ensures the recipient is ready and able to receive information. Selects appropriately what, when, how and why. Coherently expresses messages clearly, accurately and confidently. Confirms that the recipient correctly understands the activity and demonstrates understanding. Adds relevant and effective questions. Adapts to standard radio/telephone protocols and flight documentation. Accurately reads and interprets required communications, responds to critical messages in English. Completes accurate reports as required by operation. Correctly interprets non-verbal communications. Uses eye contact, body movement and gestures to enhance communication.</td>
</tr>
<tr>
<td>Controls the aircraft flight path through automation, including appropriate use of flight management systems and maintains the desired flight path during flight using automation and manual control. Manages the flight path to achieve optimum operational performance. Maintains the desired flight path during flight using automation and manual control.</td>
<td>Controls the aircraft using automation with accuracy and smoothness as appropriate to the situation. Selects deviations from the desired aircraft trajectory as appropriate. Controls the aircraft within the normal flight envelope. Manages the flight path to achieve optimum operational performance. Maintains the desired flight path during flight using automation and manual control. Selects appropriate level and mode of automation in a timely manner considering phase of flight and workload.</td>
</tr>
</tbody>
</table>

The COMMON Factor

Study: 11 CFIT Accidents 2005 - 2014

Deficient Pilot Competencies

<table>
<thead>
<tr>
<th>Competency</th>
<th>No of Accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of Procedures</td>
<td>3</td>
</tr>
<tr>
<td>Communication</td>
<td>2</td>
</tr>
<tr>
<td>Flightpath – Automation</td>
<td>6</td>
</tr>
<tr>
<td>Leadership &amp; Teamwork</td>
<td>6</td>
</tr>
<tr>
<td>Problem Solving &amp; Decision Making</td>
<td>4</td>
</tr>
<tr>
<td>Situational Awareness</td>
<td>5</td>
</tr>
<tr>
<td>Workload Management (Knowledge - EASA)</td>
<td>7</td>
</tr>
</tbody>
</table>

10th GHAC - 24 Oct 2018
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**Competency**: Application of Procedures

**Description**: Identifies and applies procedures in accordance with published operating instructions and applicable regulations...

**Behavioural Indicators**:
- Identifies source of operating instructions;
- Follows SOP unless safety dictates otherwise;
- Follows SOP in a timely manner;
- Correctly operates systems and equipment;
- Complies with applicable regulations;
- Applies relevant procedural knowledge.

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**Is it just CFIT?**

Western-built large commercial jets 2007-2016

<table>
<thead>
<tr>
<th>Accident Category</th>
<th>Fatal Accidents</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFIT</td>
<td>13</td>
<td>654</td>
</tr>
</tbody>
</table>

[Source: Boeing Statistical Summary 1959-2016]
And if non-compliance is a factor in fatal accidents...

...we can be pretty sure it’s a factor in incidents and near-misses!

Non-compliance can be completely unintentional:

<table>
<thead>
<tr>
<th>Lack of knowledge</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Inadequate training;</td>
<td>• Misapplication;</td>
</tr>
<tr>
<td>• Memory lapse;</td>
<td>• Deviation;</td>
</tr>
<tr>
<td>• Lack of practice.</td>
<td>• Stress/distraction/fatigue.</td>
</tr>
</tbody>
</table>

Inadvertent Non-compliance
Or it can be deliberate:

<table>
<thead>
<tr>
<th>Optimising:</th>
<th>Work-around:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Saving time or effort;</td>
<td>• SOP doesn’t work;</td>
</tr>
<tr>
<td>• Saving resources;</td>
<td>• Get the job done.</td>
</tr>
<tr>
<td>• A ‘better’ way.</td>
<td></td>
</tr>
</tbody>
</table>

Intentional Non-compliance

Or it can be deliberate:

**Cultural:**

• ‘Normalisation of deviance’;
• Emulating superiors;
• Inadequate oversight.

Intentional Non-compliance
Or it can be deliberate:

Recklessness:

Intentional Non-compliance

Why is compliance so important?
(Apart from the fatal accidents...)

Accident Prevention
Routine acts of accident prevention

Accident Prevention
In pursuit of compliance...

The Objectives:

A culture in which everyone does the right thing even when no-one is looking;

And

Procedural compliance is universally recognised as an essential element of professionalism.

Management must be unequivocal in their expectations with regard to compliance:

A clear expression of what is acceptable

And what is not acceptable

Repeated at every opportunity
Management behaviour must reflect those expectations

Managers;
Instructors;
Senior staff;

Anyone in a position of authority or leadership

Operational staff must be encouraged to participate in development of procedures

And report if they don’t work
Systems must be alert to the symptoms of non-compliance

- Flight data monitoring;
- Reporting programmes
- Audits
- Injuries & damage

Over a rectangular area of 800 m long and 90 m wide, oriented 94 degrees, and some debris was found within the airport.

Awareness of the part non-compliance has played in fatal accidents can help build a culture of compliance

Initial observations show that the aircraft struck the ground with high energy and high longitudinal velocity.
In summary:

- Non-compliance is endemic in human behaviour;
- Need to start from that assumption;
- In commercial aviation it has contributed to many fatal accidents;
- Compliance alone can prevent most undesirable conditions;
- Organisations can act to encourage compliance;
  - Define what is acceptable and unacceptable;
  - Demonstrate compliance in leadership;
  - Front-line contribution to procedures;
  - Be alert to the symptoms and act swiftly;
  - Spread awareness;
  - Demand professionalism.
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