

```
entry:
    %b = alloca [12 x i8], align 1
    %0 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 0
    call void @llvm.lifetime.start(i64 12, i8* %0) #4
    %src = getelementptr inbounds %struct.jpeg_decompress_struct,
    ... %struct.jpeg_decompress_struct* %cinfo, i64 0, i32 5
    %1 = load %struct.jpeg_source_mgr*, %struct.jpeg_source_mgr** %src, align 8,
    ... !bbaa.12
    %next_input_byte1 = getelementptr inbounds %struct.jpeg_source_mgr,
    ... %struct.jpeg_source_mgr* %1, i64 0, i32 0
    %bytes_in_buffer2 = getelementptr inbounds %struct.jpeg_source_mgr,
    ... %struct.jpeg_source_mgr* %1, i64 0, i32 1
    %2 = load i64, i64* %bytes_in_buffer2, align 8, !bbaa.110
    %cmp = icmp eq i64 %2, 0
    br i1 %cmp, label %if.then, label %if.end6
```

```
if.then:
    %fill_input_buffer = getelementptr inbounds %struct.jpeg_source_mgr,
    ... %struct.jpeg_source_mgr* %1, i64 0, i32 3
    %3 = load i32 (%struct.jpeg_decompress_struct)*, i32
    ... (%struct.jpeg_decompress_struct)* %fill_input_buffer, align 8, !bbaa.113
    %call = tail call i32 @3 (%struct.jpeg_decompress_struct* nonnull %cinfo) #4
    %tobool = icmp eq i32 %call, 0
    br i1 %tobool, label %cleanup, label %if.end
```

```
if.end:
    %4 = load i64, i64* %bytes_in_buffer2, align 8, !bbaa.110
    br label %if.end6
```

```
if.end6:
    %bytes_in_buffer.0 = phi i64 [ %4, %if.end ], [ %2, %entry ]
    %next_input_byte.0 = load i8*, i8** %next_input_byte1, align 8, !bbaa.114
    %dec = add i64 %bytes_in_buffer.0, -1
    %indec.ptr = getelementptr inbounds i8, i8* %next_input_byte.0, i64 1
    %5 = load i8, i8* %next_input_byte.0, align 1, !bbaa.115
    %conv = zext i8 %5 to i64
    %shl = shl nuw nsw i64 %conv, 8
    %cmp8 = icmp eq i64 %dec, 0
    br i1 %cmp8, label %if.then10, label %if.end18
```

```
if.then10:
    %fill_input_buffer1 = getelementptr inbounds %struct.jpeg_source_mgr,
    ... %struct.jpeg_source_mgr* %1, i64 0, i32 3
    %6 = load i32 (%struct.jpeg_decompress_struct)*, i32
    ... (%struct.jpeg_decompress_struct)* %fill_input_buffer1, align 8, !bbaa.113
    %call12 = tail call i32 @6 (%struct.jpeg_decompress_struct* nonnull %cinfo) #4
    %tobool13 = icmp eq i32 %call12, 0
    br i1 %tobool13, label %cleanup, label %if.end15
```

```
if.end15:
    %7 = load i8*, i8** %next_input_byte1, align 8, !bbaa.114
    %8 = load i64, i64* %bytes_in_buffer2, align 8, !bbaa.110
    br label %if.end18
```

```
if.end18:
    %next_input_byte.1 = phi i8* [ %7, %if.end15 ], [ %indec.ptr, %if.end6 ]
    %bytes_in_buffer.1 = phi i64 [ %8, %if.end15 ], [ %dec, %if.end6 ]
    %dec19 = add i64 %bytes_in_buffer.1, -1
    %indec.ptr20 = getelementptr inbounds i8, i8* %next_input_byte.1, i64 1
    %9 = load i8, i8* %next_input_byte.1, align 1, !bbaa.115
    %conv21 = zext i8 %9 to i64
    %add = or i64 %conv21, %shl
    %sub = add nsw i64 %add, -2
    %cmp22 = icmp sgt i64 %sub, 11
    br i1 %cmp22, label %for.cond.preheader, label %if.else109
```

```
for.cond.preheader:
    %fill_input_buffer31 = getelementptr inbounds %struct.jpeg_source_mgr,
    ... %struct.jpeg_source_mgr* %1, i64 0, i32 3
    br label %do.body27
```

```
do.body27:
    %indvars.iv = phi i64 [ 0, %for.cond.preheader ], [ %indvars.iv.next,
    ... %if.end38 ]
    %bytes_in_buffer.2203 = phi i64 [ %dec19, %for.cond.preheader ], [ %dec39,
    ... %if.end38 ]
    %next_input_byte.2202 = phi i8* [ %indec.ptr20, %for.cond.preheader ], [
    ... %indec.ptr40, %if.end38 ]
    %cmp28 = icmp eq i64 %bytes_in_buffer.2203, 0
    br i1 %cmp28, label %if.then30, label %if.end38
```

```
if.then30:
    %10 = load i32 (%struct.jpeg_decompress_struct)*, i32
    ... (%struct.jpeg_decompress_struct)* %fill_input_buffer31, align 8, !bbaa.113
    %call32 = tail call i32 @10 (%struct.jpeg_decompress_struct* %cinfo) #4
    %tobool33 = icmp eq i32 %call32, 0
    br i1 %tobool33, label %cleanup.loopexit, label %if.end35
```

```
cleanup.loopexit:
    br label %cleanup
```

```
if.end35:
    %11 = load i8*, i8** %next_input_byte1, align 8, !bbaa.114
    %12 = load i64, i64* %bytes_in_buffer2, align 8, !bbaa.110
    br label %if.end38
```

```
if.end38:
    %next_input_byte.3 = phi i8* [ %11, %if.end35 ], [ %next_input_byte.2202,
    ... %do.body27 ]
    %bytes_in_buffer.3 = phi i64 [ %12, %if.end35 ], [ %bytes_in_buffer.2203,
    ... %do.body27 ]
    %dec39 = add i64 %bytes_in_buffer.3, -1
    %indec.ptr40 = getelementptr inbounds i8, i8* %next_input_byte.3, i64 1
    %13 = load i8, i8* %next_input_byte.3, align 1, !bbaa.115
    %arrayidx = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64
    ... %indvars.iv
    store i8 %13, i8* %arrayidx, align 1, !bbaa.115
    %indvars.iv.next = add nuw nsw i64 %indvars.iv, 1
    %cmp25 = icmp slt i64 %indvars.iv.next, 12
    br i1 %cmp25, label %do.body27, label %for.end
```

```
for.end:
    %indec.ptr40.lesss = phi i8* [ %indec.ptr40, %if.end38 ]
    %dec39.lesss = phi i64 [ %dec39, %if.end38 ]
    %sub43 = add nsw i64 %add1, -14
    %14 = load i8, i8* %0, align 1, !bbaa.115
    %cmp46 = icmp eq i8 %14, 65
    br i1 %cmp46, label %land.lhs.true, label %if.else
```

```
land.lhs.true:
    %arrayidx48 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 1
    %15 = load i8, i8* %arrayidx48, align 1, !bbaa.115
    %cmp50 = icmp eq i8 %15, 100
    br i1 %cmp50, label %land.lhs.true52, label %if.else
```

```
land.lhs.true52:
    %arrayidx53 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 2
    %16 = load i8, i8* %arrayidx53, align 1, !bbaa.115
    %cmp55 = icmp eq i8 %16, 111
    br i1 %cmp55, label %land.lhs.true57, label %if.else
```

```
land.lhs.true57:
    %arrayidx58 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 3
    %17 = load i8, i8* %arrayidx58, align 1, !bbaa.115
    %cmp60 = icmp eq i8 %17, 98
    br i1 %cmp60, label %land.lhs.true62, label %if.else
```

```
land.lhs.true62:
    %arrayidx63 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 4
    %18 = load i8, i8* %arrayidx63, align 1, !bbaa.115
    %cmp65 = icmp eq i8 %18, 101
    br i1 %cmp65, label %if.then67, label %if.else
```

```
if.then67:
    %arrayidx68 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 5
    %19 = load i8, i8* %arrayidx68, align 1, !bbaa.115
    %conv69 = zext i8 %19 to i32
    %shl70 = shl nuw nsw i32 %conv69, 8
    %arrayidx71 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 6
    %20 = load i8, i8* %arrayidx71, align 1, !bbaa.115
    %conv72 = zext i8 %20 to i32
    %add73 = or i32 %shl70, %conv72
    %arrayidx74 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 7
    %21 = load i8, i8* %arrayidx74, align 1, !bbaa.115
    %conv75 = zext i8 %21 to i32
    %shl76 = shl nuw nsw i32 %conv75, 8
    %arrayidx77 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 8
    %22 = load i8, i8* %arrayidx77, align 1, !bbaa.115
    %conv78 = zext i8 %22 to i32
    %add79 = or i32 %shl76, %conv78
    %arrayidx80 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 9
    %23 = load i8, i8* %arrayidx80, align 1, !bbaa.115
    %conv81 = zext i8 %23 to i32
    %shl82 = shl nuw nsw i32 %conv81, 8
    %arrayidx83 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 10
    %24 = load i8, i8* %arrayidx83, align 1, !bbaa.115
    %conv84 = zext i8 %24 to i32
    %add85 = or i32 %shl82, %conv84
    %arrayidx86 = getelementptr inbounds [12 x i8], [12 x i8]* %b, i64 0, i64 11
    %25 = load i8, i8* %arrayidx86, align 1, !bbaa.115
    %conv87 = zext i8 %25 to i32
    %err = getelementptr inbounds %struct.jpeg_decompress_struct,
    ... %struct.jpeg_decompress_struct* %cinfo, i64 0, i32 0
    %26 = load %struct.jpeg_error_mgr*, %struct.jpeg_error_mgr** %err, align 8,
    ... !bbaa.116
    %arraydecay = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %26, i64 0, i32 6, i32 0, i64 0
    store i32 %add73, i32* %arraydecay, align 4, !bbaa.117
    %arrayidx90 = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %26, i64 0, i32 6, i32 0, i64 1
    store i32 %add79, i32* %arrayidx90, align 4, !bbaa.117
    %arrayidx91 = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %26, i64 0, i32 6, i32 0, i64 2
    store i32 %add85, i32* %arrayidx91, align 4, !bbaa.117
    %arrayidx92 = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %26, i64 0, i32 6, i32 0, i64 3
    store i32 %conv87, i32* %arrayidx92, align 4, !bbaa.117
    %msg_code = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %26, i64 0, i32 5
    store i32 75, i32* %msg_code, align 8, !bbaa.118
    %emit_message = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %26, i64 0, i32 1
    %27 = load void (%struct.jpeg_common_struct*, i32)*, void
    ... (%struct.jpeg_common_struct*, i32)* %emit_message, align 8, !bbaa.120
    %28 = bitcast %struct.jpeg_decompress_struct* %cinfo to
    ... %struct.jpeg_common_struct*
    tail call void @27 (%struct.jpeg_common_struct* %28, i32 1) #4
    %saw_Adobe_marker = getelementptr inbounds %struct.jpeg_decompress_struct,
    ... %struct.jpeg_decompress_struct* %cinfo, i64 0, i32 54
    store i32 1, i32* %saw_Adobe_marker, align 8, !bbaa.121
    %Adobe_transform = getelementptr inbounds %struct.jpeg_decompress_struct,
    ... %struct.jpeg_decompress_struct* %cinfo, i64 0, i32 55
    store i8 %25, i8* %Adobe_transform, align 4, !bbaa.122
    br label %if.end119
```

```
if.else:
    %err98 = getelementptr inbounds %struct.jpeg_decompress_struct,
    ... %struct.jpeg_decompress_struct* %cinfo, i64 0, i32 0
    %29 = load %struct.jpeg_error_mgr*, %struct.jpeg_error_mgr** %err98, align
    ... 8, !bbaa.116
    %msg_code99 = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %29, i64 0, i32 5
    store i32 77, i32* %msg_code99, align 8, !bbaa.118
    %conv100 = trunc i64 %sub43 to i32
    %add101 = add nsw i32 %conv100, 12
    %arrayidx105 = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %29, i64 0, i32 6, i32 0, i64 0
    store i32 %add101, i32* %arrayidx105, align 4, !bbaa.117
    %emit_message107 = getelementptr inbounds %struct.jpeg_error_mgr,
    ... %struct.jpeg_error_mgr* %29, i64 0, i32 1
    %30 = load void (%struct.jpeg_common_struct*, i32)*, void
    ... (%struct.jpeg_common_struct*, i32)* %emit_message107, align 8, !bbaa.120
    %31 = bitcast %struct.jpeg_decompress_struct* %cinfo to
    ... %struct.jpeg_common_struct*
    tail call void @30 (%struct.jpeg_common_struct* %31, i32 1) #4
    br label %if.end119
```

```
if.end119:
    %length.0 = phi i64 [ %sub43, %if.then67 ], [ %sub43, %if.else ], [ %sub,
    ... %if.else109 ]
    %next_input_byte.4 = phi i8* [ %indec.ptr40.lesss, %if.then67 ], [
    ... %indec.ptr40.lesss, %if.else ], [ %indec.ptr20, %if.else109 ]
    %bytes_in_buffer.4 = phi i64 [ %dec39.lesss, %if.then67 ], [ %dec39.lesss,
    ... %if.else ], [ %dec19, %if.else109 ]
    store i8* %next_input_byte.4, i8** %next_input_byte1, align 8, !bbaa.114
    store i64 %bytes_in_buffer.4, i64* %bytes_in_buffer2, align 8, !bbaa.110
    %cmp122 = icmp sgt i64 %length.0, 0
    br i1 %cmp122, label %if.then124, label %cleanup
```

```
if.then124:
    %35 = load %struct.jpeg_source_mgr*, %struct.jpeg_source_mgr** %src, align
    ... 8, !bbaa.12
    %skip_input_data = getelementptr inbounds %struct.jpeg_source_mgr,
    ... %struct.jpeg_source_mgr* %35, i64 0, i32 4
    %36 = load void (%struct.jpeg_decompress_struct*, i64)*, void
    ... (%struct.jpeg_decompress_struct*, i64)* %skip_input_data, align 8, !bbaa.123
    tail call void @36 (%struct.jpeg_decompress_struct* nonnull %cinfo, i64
    ... %length.0) #4
    br label %cleanup
```

```
cleanup:
    %retval.0 = phi i32 [ 0, %if.then ], [ 0, %if.then10 ], [ 1, %if.then124 ],
    ... [ 1, %if.end119 ], [ 0, %cleanup.loopexit ]
    call void @llvm.lifetime.end(i64 12, i8* %0) #4
    ret i32 %retval.0
```